

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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No. 2310.—VOL. XLIX.

LONDON, SATURDAY, NOVEMBER 29, 1879.

[WITH SUPPLEMENT.] {PRICE SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUUSTELL.

SPECIAL DEALINGS in the following, or part:—

50 Assheton, 22s. 6d.	20 Eberhardt, £3 3/4.	20 Panulicillo, £4 17s. 6d.
25 Almada, 7s.	50 Flagstaff, 23s. 9d.	100 Pestarena, 6s. 3d.
25 Canada Gold.	20 Glyn United.	50 Parys Corporat., 20s
25 Clementina.	20 Herodsfoot, £2 18s. 9d.	20 Richmond, £4 12s. 6d.
20 Colorado, 36s.	50 Javali, 8s. 9d.	25 South Darren, £3 3/4.
25 Devon Consols, £5 1/4.	75 Killifreth, 12s. 6d.	25 Tankerville, £5 1/4.
25 East Caradon, £2 18s. 9d.	25 Leadhills, £3 18s. 9d.	10 Van, £2 2 1/2.
10 East Lovell, £2 1/2.	10 Mineral Corporation.	25 West Asheton, £2 6 3/4.
20 East Van, £2 8s. 9d.	20 Moria Du, 15s.	20 West Chiverton, £3 3/4.
50 East Roman Gravel.	50 Pandora, 12s. 6d.	20 Wheel Orebtor, £3.

SPECIAL BUSINESS in all TIN Shares.

*. SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

RAILWAYS—SPECIAL BUSINESS.

FOREIGN BONDS—SPECIAL BUSINESS.

Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES

AND MISCELLANEOUS SHARES of every description.

RAILWAYS, BANKS, FOREIGN AND COLONIAL BONDS.

TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement

A Stock and Share List free on application.

Mr. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

50 Almada.	40 East Roman Gravel.	20 Pateley Bridge, 18s.
30 Blue Tent, £2.	5 East Pool, £22.	25 Panulicillo, £4 19s. 6d.
100 Bodidris.	10 Flagstaff, 23s. 9d.	40 Pandora, 12s. 6d.
40 Colorado, 36s. 6d.	50 Frontino, £2 19s. 6d.	50 Parys Corporat., 20s.
2 Carn Brea, £60.	25 Great Holway.	100 Pestarena, 6s. 3d.
5 Cape Copper, £3 3/4.	10 Great Laxey, £18 1/4.	10 Richmond, £4 12s. 6d.
20 Drakewalls.	50 Gunnislake.	25 Ruby, £3 18s. 9d.
75 Don Pedro, 18s.	40 Hingston, 12s.	10 Roman Grav., £11 1/4.
10 Derwent, £3.	25 Herodsfoot, £2 1/2.	40 South Orebtor.
3 Dolcoath, £57 1/2.	40 Javali, 8s. 6d.	25 South Darren, £3 3/4.
15 Devon Consols, £5 1/4.	100 Killifreth, 12s.	5 South Frances, £12 1/4.
25 East Van, £2 8s. 9d.	20 Leadhills, £3 18s. 9d.	10 Tankerville, £5 1/4.
20 East Lovell, £2 1/2.	50 Marke Valley, 31s. 6d.	100 Tamar Silver-Lead.
25 Eberhardt, £3 18s. 9d.	100 Mellanear, £2 1/2.	25 W. Asheton, £2 3/4.
30 East Caradon, £2 18s. 9d.	20 New Quebrada, £3 11 1/2.	5 Wheel Peavor.
20 East Chiverton, £2 3/4.	60 Nouveau Monde.	30 Wheel Grenville, £5 3/4.
50 East Orebtor.	100 North Penstruthal.	

IMPORTANT TO INVESTORS.

Large profits may be realised by the purchase of SHARES in SOUND well-selected MINES at present prices. Many of these are likely to advance considerably in market value during the next few months.

Mr. Bumpus devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.

The following Mines are particularly recommended:—Wheal Peavor, Wheal Grenville, Wheal Jane, West Peavor, Wheal Kitty, Drakewalls, East Lovell, Killifreth, East Caradon, Gunnislake (Olliters), Marke Valley, Derwent, East Chiverton, South Darren, Great Holway, West Asheton, and Panulicillo.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

A complete and reliable List of all the Leading Investments (published on the first of each month) may be obtained free on application to—

WILLIAM HENRY BUMPUS, SWORN BROKER.

OFFICES: 44, THREADNEEDLE STREET, LONDON, E.C.

BANKERS: THE NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. ENDEAN AND CO., STOCK AND SHARE DEALERS,
85, GRACECHURCH STREET, LONDON, E.C.

THE OREBOR DISTRICT.—Having our own independent agents we can furnish reliable information respecting mining properties in this neighbourhood on our usual terms.

TAMAR MINE.—This mine is in the same district as Orebtor, and shares should be bought at present low price.

BODIDRIS MINE.—Splendid specimens of ore from the Mace-y-pwll lode, just received, may be seen at our office.

Full particulars on application to—

Messrs. ENDEAN and CO., 85, GRACECHURCH STREET, LONDON, E.C.

Messrs. ENDEAN AND CO. are prepared to DEAL in the

undermentioned SHARES, as follows:—

Llanrwst Ordinary... £ 3/4... £1 1/4... £1 1/2

do 10 p. cent. Pref. 2... 2 1/4... 2 1/2... 2 3/4

WANTED, 700 BODIDRIS Shares, for cash, in one lot. State lowest price.

Dealers and others wishing to buy or sell shares in the above will find it to their advantage to communicate with—

Messrs. ENDEAN AND CO., STOCK AND SHARE DEALERS,
85, GRACECHURCH STREET, LONDON, E.C.

MESSRS. ENDEAN AND CO., STOCK AND SHARE DEALERS,
85, GRACECHURCH STREET, LONDON, E.C.

strongly recommend shares in the LLANRWST LEAD MINING COMPANY (LIMITED), for a speedy and substantial rise in price. No mine in the Llanrwst district can equal it either as regards present value or future prospects. Shareholders in this mine will do well to average the cost of their shares by picking up every share they can get at 1/2, which is 50 per cent. discount. Those who have not yet taken any of the company's 10 per cent. Preference Shares should at once do so.

We have recently had Llanrwst mine inspected by Mr. G. Barker, M.E. His report is published in *extenso* in today's Mining Journal. He states that without counting upon the lode in the 14 below adit, and on which he reported in 1877, there are 4050 tons of ore discovered, worth, at 12s. per ton, 486,000l.

The ordinary shares are now to be had for 1/2 each. This is only 30,000l. for the mine. The preference capital issued is barely 2000l. The mine is, therefore, capable of returning 100 tons of lead monthly, and will doubtless do so. This will enable the company to pay the 10 per cent. due on its preference shares, and leave a balance which would enable them to pay 15 per cent. on the ordinary shares at their present price of 1/2. If there are any shareholders foolish enough to sell their shares for less, so much the better for those who are shrewd enough to buy them. The fact that 48,600l. worth of lead has been already discovered above the adit is in itself sufficient proof that the Llanrwst is a mine second in its prospects to no other in the United Kingdom.

MR. JOHN RISLEY, STOCK AND SHARE BROKER,
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ESTABLISHED 20 YEARS.

EAST CARADON, EAST OREBOR, and PARYS CORPORATION shares specially recommended.

Reliable information on all Mines obtained for clients.

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will in future be at—

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OLD BROAD STREET,

LONDON, E.C.

Being larger and much more convenient Offices than at—
54, OLD BROAD STREET.

MESSRS. PETER WATSON AND CO.'S

BRITISH AND FOREIGN MONTHLY MINING NEWS

—STOCK AND SHARE INVESTMENT NOTES—MINES.

MINERALS, AND METAL MARKETS—SHARE LIST,

No. 812, Vol. XV., for NOVEMBER month, will be published

on WEDNESDAY next, and sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

Messrs. PETER WATSON AND CO.,

18, AUSTIN FRIARS,

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LONDON, E.C.

STOCK AND SHARE MARKETS.

Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information forwarded on application to—

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UNITED STATES AND COLONIAL MINES

IMPORTANT INFORMATION REGARDING THE ABOVE.

BUYER and SELLER of SHARES at the close Market Price of the day.

SHAREHOLDERS and INVESTORS may rely on all business being

punctually and faithfully carried out.

A DAILY LIST OF PRICES sent (free) on application, either personally

or by post. BANKERS: THE ALLIANCE BANK (Limited).

Messrs. PETER WATSON AND CO.,

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OLD BROAD STREET,

LONDON, E.C.

MR. ALFRED E. COOKE,

DEALER at NET PRICES in EVERY DESCRIPTION of STOCKS

and SHARES,

76, OLD BROAD STREET, LONDON.

ESTABLISHED 1853.

SPECIAL.—ALL SHARES selected and recommended by Mr. Cooke have risen CONSIDERABLY in PRICE. INVESTORS can now be supplied with SHARES DIRECT on application, which will almost certainly realise 100 to 200 per cent. profit in a very short time.

IMPORTANT.—Investors following Mr. Cooke's advice have made LARGE SUMS OF MONEY. LOW PRICED LEAD SHARES should NOW be PURCHASED. Lead will probably advance many pounds per ton. There is no cheaper LEAD SHARE to be bought than

NORTH D'ERESBY MOUNTAIN, at 20s. fully paid.

Mr. Cooke has recently visited the Mine, and NEVER SAW IT LOOKING SO VALUABLE. Specimens from the workings can be seen at his offices.

NOTE.—THE EXPENSES of any independent inspector will be REFUNDED should his report not agree with those favourable reports already made by eminent authorities.

ALL BUSINESS transacted FREE of commission.

SPECIAL BUSINESS in ALL TIN, COPPER, and LEAD SHARES at

CLOSEST POSSIBLE PRICES.

STOCK EXCHANGE BUSINESS DONE ON BEST TERMS.

ALFRED E. COOKE,

76, OLD BROAD STREET, LONDON.

(Adjoining the Stock Exchange and Mining Markets.)

STOCKS AND SHARES,
FOREIGN BONDS, TELEGRAPHS, TRAMWAYS, RAILWAYS, AND
OTHER LEADING SECURITIES.

MR. JAMES STOCKER, STOCKBROKER,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1849.

SPECIAL BUSINESS in the following:—

Bodidris.	Herodsfoot.	South Frances.
Cardiff and Swanses.	Hulthall.	Tankerville.
Colorado.	Leadhills.	Van.
Chontales.	Last Chance.	West Asheton.
Devon Consols.	Marke Valley.	West Chiverton.
Don Pedro.	Nouveau Monde.	West Wheel Frances.
East Chiverton Consol.	North Penstruthal.	West Peavor.
East Lovell.	Pestarena.	West Pateley.
East Van.	Pateley Bridge.	Wheal Jane.
East Caradon.	Roman Gravel.	Wheal Peavor.
East Orebtor.	Richmond.	Wheal Grenville.
Flagstaff.	Ruby.	Wheal Uny.
Grogwinion.	South Darren.	

BANKERS: LONDON AND WESTMINSTER.

MR. W. B. COBB, 29, BISHOPSGATE STREET,

LONDON, E.C.

WANTED.—BWICH UNITED shares. State number and lowest price for

cash. BANKERS: ALLIANCE BANK (Limited).

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,

29, BISHOPSGATE STREET, LONDON, E.C.

Can SELL the following SHARES at prices annexed:—

50 Bedford United, 9s. 3d.	25 Gawton Copper, 13s.	100 Pestarena, 6s.
25 Colorado, £1 7/8.	25 Glenroy, 15s.	10 Port Phillip, 9s. 6d.
10 Devon Consols, £5 7 1/2.	10 Herodsfoot, £2 16s. 3d.	10 Roman Gravel, £11 1/4.
50 Don Pedro, 18s.	30 Hingston, 11s. 6d.	100 Rossa Grande, 3s. 9d.
25 East Caradon, £3 2s. 6	50 I.X.L., 3/4.	15 South Darren, £3 3/4.
25 East Orebtor, £1 5s.	20 Leadhills, £3 17s. 6d.	30 Tamar Silver-Lead.
15 East Lovell, £2 1/2.	20 Marke Valley, £1 12s.	50 Tecoma, 6s. 3d.
20 East Van, £2 3/4.	10 Nouveau Monde, 18s. 9	20 West Chiverton, £3 3/4.
25 Eberhardt, £3 18s. 9d.	15 Panulicillo, £4 16s. 3d.	20 West Pateley Br., £2 1/2.
25 Flagstaff, £1 8s. 9d.	25 Pateley Bridge, 15s. 6	20 Yorke Pen. (pref), 20s 6

BWICH UNITED MINES—SPECIAL BUSINESS in these shares.

MR. JOHN L. M. FRASER,

(Fourteen Years at the Great Miners' Mines)

CONSULTING MINING ENGINEER—SECRETARY AND AUDITOR—

ROYALTY AND MINERAL ESTATE AGENT—SHARE DEALER—

MINES, MINERALS, AND MACHINERY BROKER—

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Specially recommends the following SOUND LEAD MINES for INVEST-

MENT and a GREAT RISE in price:—

BRITISH SILVER-LEAD. CEFN-Y-MAES.

PANT-Y-MWYN. FLAS DDU and PARK.

Splendid runs of lead ore have been discovered in each of them, and are open

to inspection. Full particulars on application.

THE "DIFFERENTIAL" PUMPING ENGINE

(DAVEY'S PATENT),

FOR

DRAINING MINES, WATER SUPPLY OF TOWNS, IRRIGATION,
SUPPLYING DOCKS, PUMPING SEWAGE, and GENERAL
PUMPING PURPOSES

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LEEDS.

HATHORN, DAVEY, and Co. have Patterns of "Differential" Engines of all sizes, from 5 to 500-horse power, and have facilities for supplying very powerful Engines and Pumps at a short notice.

See Illustrated Advertisement every alternate week.

MR. CHARLES THOMAS,

MINING AGENT, STOCK AND SHARE DEALER,

3, GREAT ST. HELEN'S, LONDON, E.C.

MR. ALFRED THOMAS,

MINING AGENT, AND STOCK AND SHARE DEALER,

10, COLEMAN STREET, LONDON, E.C.

"HOW TO TAKE ADVANTAGE OF THE COMING RISE IN PRICES,"

By ALFRED THOMAS, 10, Coleman-street, E.C.

Will be forwarded to investors upon application.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,

LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

TO INVESTORS, SHAREHOLDERS, TRUSTEES.

SAFE DIVIDEND INVESTMENTS PAYING 4 TO 6 AND 10 PER CENT.
PER ANNUM ON PRESENT OUTLAY.

SHARP'S INVESTMENT CIRCULAR.

The DECEMBER EDITION (post free),

SHOULD BE CONSULTED BY INVESTORS AND SHAREHOLDERS.

It is a Reliable "Guide," giving valuable information and Sound Advice, &c. It gives Market prices; Dividends upon outlay, when payable; Reports, &c., &c.

IT CONTAINS ALL THE SAFE INVESTMENTS IN THE FOLLOWING:—

English, Foreign Railways. Insurance, Gas, Waterworks.

Preference, Debenture Stocks. Colonial, Foreign Stocks.

Indian, American Stocks. British, Foreign, Colonial Mines.

Bank, Financial Shares. Tea, Land Shares.

Tramway, Telegraph Shares. Shipping, Dock Shares.

Municipal Bonds. Miscellaneous Shares, &c., &c.

HENRY GOULD SHARP, STOCK AND SHARE BROKER,

42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.

BANKERS: LONDON AND WESTMINSTER, Lothbury, London, E.C.

TO INVESTORS—SPECIALLY ADVISED—CHEAP SHARES, AND SAFE.

Well worth Buying for a Rise of 100 to 200 per cent. Dividends next year.

SOUTH DARREN (SILVER-LEAD) MINE, LIMITED,

CARDIGANSHIRE, WALES,

IN 9000 SHARES. FULLY PAID. PRICE £3 5s. to £3 10s. NO LIABILITY.

I advise my readers to secure 500 Shares, or any less number, without delay. Shares are cheap at £5 each, and well worth that price.

At £3 5s. per share (9000 shares) it is only £29,250 for the whole property. The profit for October and November amounts to about

£750 on 50 tons per month, including the copper. A dividend will be paid in January next—2s. per share. Shares will go to £5 certain.

This valuable and profitable Silver-Lead Mine is situated in the rich mineral district of Cardiganshire (a district which has proved immensely profitable, and in which hundreds of thousands of pounds have been paid in dividends).

N.B.—50 tons lead ore sold October, at £16 12s. 6d. per ton, giving a profit of 357l. on the month, including copper, November, 50 tons sold at £17 2s. 6d. per ton, £856 5s., will give a profit of over £350, excluding copper.

MONTHLY RETURNS OF LEAD.—The present returns are 50 tons of ore per month, which will realise £17 per ton, thus proving the lead is of rich quality for silver. Sales will soon be considerably increased, and, with advanced prices for lead, will greatly augment their profits, and enable them to pay large dividends.

RESERVES OF LEAD ORE.—The present value of the reserves of silver-lead ore (exclusive of tribute pitches) is estimated at 1700 tons, which, at present price of £17 per ton, gives... £28,900

These reserves will soon be largely increased.

There is not a single mine in the country selling for so low a value (£29,250) can show what South Darren can. The statement of the general meeting will be found in another part of this Journal.

TO INVESTORS—SPECIALLY RECOMMENDED—WELL WORTH BUYING.

HENRY GOULD SHARP advises the purchase of Herodsfoot Shares for a rise of 100 to 200 per cent. during 1880, excluding dividends.

Shares are cheap, and safe at present price, and certain to rise.

HERODSFOOT (SILVER-LEAD) MINE,

LISKEARD, CORNWALL.

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES *—No. CXXXVIII.

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,

Mining Engineer, Wakefield.

(Formerly Student at the Royal Bergakademie, Clausthal.)

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METHODS OF WORKING WITHOUT ATTLE PACKING.

PILLAR WORKING.

The complete extraction of the coal in seams of excessive thickness, 10 yards and upwards, offers considerable difficulties, for which several plans have been proposed. It has been proposed by some English and German mining engineers to work seams, such as the 10-yard seams in Staffordshire, which are divided into several beds by dirt partings in stages, each stage being completely worked out by the longwall method, and the goaf allowed several years for the dirt, &c., to settle and consolidate under the surface pressure before commencing to work away the next stage below. Before proceeding to discuss the advantages and suitability of the various modes we shall add two other examples of the working of thick seams; that of the Kladno seam 6 to 12 yards thick in Bohemia, and the 10-yards seam in Staffordshire, though the latter can scarcely be considered as an example of the pillar and stall system of working.

The Kladno seam, which dips at from 8° to 36°, is divided into five or six beds by dirt partings, varying from 1 in. to 8 in. thick. The seam is opened out by means of two main levels, 13 to 17 yards apart, driven sometimes close to the floor, and sometimes in the middle of the seam. From the main level brows are driven on the full rise of the seam, some of which are fitted up as jig-brows, and from the brows the seam is intersected by levels, 6 ft. wide and 6 ft. high, driven 11 to 22 yards apart, centre to centre, thus leaving pillars from 9 to 20 yards in thickness. According as it is intended to work the seam in one or two stages the brows are driven on the floor, or in the middle of the seam. Safety pillars are left to protect the main levels and the jig-brows, and also with the intention of isolating any portion of the mine in case of fire. The working away of the pillars commences with the topmost pillar, and at the boundary end of the pillar. The working away of the pillar is begun by driving a wide drift, in the roof of which one or two of the top seams are left. As soon as the drift has been carried through to the boundary level a row of props, from 18 in. to 3 ft. apart, is put up, with large strong lids between the roof and the prop. When this row has been put up the coal is undercut in one of the dirt partings to a depth of 36 in. to 40 in. over the whole width of the pillar. The undercut coal is first wedged down, beginning at the low side of the pillar, followed by the wedging up of the lower seam. A second row of props is put up parallel to and at 1 yard distant from the first, and the undercutting is again proceeded with to a depth of 36 in. to 40 in., when the top coal, and afterwards the bottom coal, is wedged up, beginning at the low side of the pillar. This is followed by putting up a third row of props, after which the first row is robbed, to give this seam or seams forming the roof the opportunity of falling. With every yard, or fall, of coal got the back row of props is robbed, and a fresh row set up, so that the face is always protected by two rows of props. The robbing of the back row of props is not always immediately followed by the breaking down of the roof coal, and is sometimes accompanied by the fall of some portion of strata above the coal. As a rule, however, the coal breaks down two or three days before the strata, so that there is sufficient time to fill the roof coal in the curves, and get it away from the working places before the strata above falls in and buries it. It will thus be noticed that when the whole thickness of the seam is got in one working, or in two stages, of which the upper one is much thicker than the lower, the proportion of coal got depends very much on the length of time that the roof will stay up after the coal has been got from beneath, and that this requires a regular and rapid advance of the working away of the pillar; and hence it follows that it is disadvantageous to have the pillars very thick. When the topmost pillar has been worked out over a length of 22 yards the working away of the third pillar is commenced, and so forth, the working away of one pillar being 22 yards in advance of the next pillar below, and 22 yards behind that of the pillar next above. When the seam is worked in two stages the goaf is allowed three or four years in which to settle and consolidate, when the working away of the lower portion of the seam is commenced. It is often found, however, that even when one of the seams is left up to form the roof in the working places, and only got as it falls behind in the goaf, that there is great difficulty in keeping up the roof; the expense in timber becomes excessive, since it is found necessary to timber the levels as well as the working face; only a comparatively small portion of the roof can be got, so that the loss of coal is considerable; and that there is great danger from fires, which may break out in the goaf of the upper portion of the seam, and which it is difficult to dam off when working the lower stage.

The best known example of the working of thick seams in this country is that of the 10-yard seam in Staffordshire. This seam consists of upwards of 12 beds of coal, varying from 18 in. to 4 ft. in thickness, some of the beds being separated by dirt partings, varying from 1 in. to 5 in. thick. The seam is opened out by means of two shafts, and from one of these the main gate-road, 9 ft. to 10 ft. wide, and upwards of 12 feet in height, is driven on the floor of the seam, and is used as the main travelling road. From the other shaft a narrow air road, about 3 ft. by 4 ft., is driven in the lower part of the seam, about 3 yards above the floor, and is thirled every 20 to 22 yards by narrow headings, which come into the main gate-road near the roof of the latter. These headings are usually denominated as spouts. The seam is often interrupted by slips or throws, varying from 1 in. to 3 or 4 ft. The floor and roof of the main gate-road are taken up or down as the case may require, levelled so as to prevent any sudden variation in the floor of the gate-road. The air-road, however, is interrupted at such throws, and jumps up by a short staple pit to the difference of level, so as to be continued in the same portion of the seam on the opposite side of the fault. From the main gate-road the compartments are opened out by means of bolt-holes. Ponson has compared these compartments when worked out to a series of lofty halls, or chambers, of the full height of the seam (9 to 10 yards), separated by walls or pillars of coal, in the centre of which the air-way is formed, the roof of the chambers being supported by means of pillars of coal, placed more or less regularly apart. When two or more adjoining compartments are nearly finished, coal is often got by working away portions of the walls or pillars of coal separating the compartments. Fortunately the roof is pretty good, and will stand a considerable time before giving way and falling in, so that the chambers can often be made from 50 to 60 yards long by 30 to 40 yards wide, with pillars varying from 4 to 10 yards square. The walls between two compartments are usually from 5 to 8 yards in thickness. The details of working away the coal in the compartments is as follows. Two miners drive forward from the bolt-hole in the lowest seam, which is only 2 ft. thick, and when they are sufficiently advanced two other miners drive forward following them, after first enlarging the bolt-hole to a width of 8 or 9 yards. When these have advanced sufficiently, and it is found that the arch above is sufficiently strong to stand with a greater width opened out, two other miners are introduced, to carry the opening still further, until it is upwards of 13 yards long, which gives this as the full width of the excavation, which is then carried forward, so as to leave a pillar 5 to 8 yards in thickness between this and the next compartment, or to the gate-road. The best miners are placed next to the wall, so as to give the compartment the decided form, according as is determined by the boundary pillar of the compartment. The upper seams are prevented from falling by means of props or pack-walls, built of the strongest stones from the partings. When the excavation of the lowest seam has proceeded sufficiently, that of the other seams is commenced, by cutting vertically upwards along the line of the wall

formed by working out the lower seam, and up to some parting, or natural jointing in the coal, so as to isolate the portion of the coal intended to be got. This cutting is made all round that portion of the next seams above, intended to be next got; the cutting is made sufficiently large to admit of the head and shoulders of the miner. Since the jointage of the beds does not offer sufficient security to the miners for keeping up the seams whilst they are being cut by them along the side, small portions of coal about 12 in. square are left intact every 6 ft. to 7 ft. to support the seams until the cutting has been completed, when the miner coming backward towards the bolt-hole cuts down these supporting pieces, so that after some distance has thus been left without any lateral support the joint or parting gradually gives way, and the coal falls in large flat masses, containing from 60 to 80 tons of coal.

Since the coal often breaks down with very little warning, and sometimes one or two of the supporting pieces, it is too dangerous for the miner to cut through these by means of an ordinary pick. In order to cut through these and still be at a considerable distance from the portion being cut, the miners make use of an instrument called a pricker (from 4 yards to 5 yards in length), which much resembles a boatman's hook.

As the working away of the lower seam advances in two or three pieces, 3 yards wide, from the gate-road, the excavation is extended towards the side of the compartment, forming pillars by means of the intersection of the lateral with the longitudinal stalls and excavations. The excavation of the lower seam is followed in every direction by the cutting, as just described, through and round the next seams above, and as these fall, extending the vertical cutting to higher seams, the seams being temporarily supported during the cutting by means of props or pack pillars, and the leaving of 12 inches square pieces intact during the cutting. Before cutting down these pieces by means of the pricker the wood, &c., will be robbed from beneath the coal. At first the dirt parting and small coal produced during the getting of the lower seams will form a sufficiently high bank on which to stand while cutting the middle seams. As the middle seams are got the footing thus afforded for the miners will not be high enough to reach the higher seams, so that resort must be had to ladders and slight scaffolding. As the excavation extends the pillar is thirled through to the air-road in one of the middle seams.

It is but seldom that the topmost seam of all is cut through, as it is very strong, and forms an excellent roof, standing for a considerable time over a comparatively large area without support. When the roof coal breaks down of itself it is sometimes possible to get a portion of it, but as the strata above are without support, and often come down with the roof coal, it is not safe to attempt to get a very large portion of the roof coal. Besides the larger pillars purposely formed for keeping up the roof, there are other smaller pillars from 9 ft. to 12 ft. square, which are formed as accessory pillars when it is found that the excavation is wider than advisable. These bear the name "men-of-war," the size of which diminishes as the upper seams are reached. Since the lowest seam of all is somewhat of a friable nature, and therefore unfitted to form the foundation of a pillar of such small dimensions, it is usual to get the lower seam entirely even where it is intended to leave a "man-of-war," the footing for which is formed by inserting beneath the next seam—at the place where it is intended to form these accessory pillars—the largest and strongest pieces obtained from the partings, the upper portion of this foundation being covered by flat boards inserted beneath the next seam. Owing to the elasticity of the coal and roof the "man-of-war" sinks slightly—i.e., as far as the compression of the foundation will allow. The ventilating current enters along the air-road, and finds admittance into the compartment by the most advanced slit, and merges from the compartment at the bolt-hole into the main gate-road. No one can avoid being struck with the great difference in the sectional area of the intake of the return air-road, the latter being ten times that of the former. This method of working is one of the most dangerous, and the loss of life in working the 10-yard seam is excessive in proportion to the total amount of coal got, and the relative amount compared with the total quantity in the seam. When the pillars separating the compartments have been thinned as much as possible, and the compartment worked out as far as practicable, the compartment is sealed up by placing a dam in the bolt-hole, so as to prevent access of fresh air to the small coal left behind, and which might take fire spontaneously.

THE SYDNEY INTERNATIONAL EXHIBITION—No. I.

[FROM OUR SYDNEY CORRESPONDENT.]

As your readers will naturally expect to hear from me as soon as possible some details of the Exhibition here, I will commence with our own colony. Mining will, of course, have the most important place, but inasmuch as in a young country boots, saddlery, and harness are amongst the most essential necessities for carrying on business at all, it may be observed that the New South Wales exhibits of this class are especially attractive; the manufacturers of these articles leave all competitors entirely out of the field, showing that with our own free trade principles we can surpass in excellence and prosperity the protected producers south of the Murray. Of leather goods Messrs. Alderson and Sons, of the Grange Works, Surry Hills, who employ between 300 and 400 hands, make the finest and most varied show; but that of the equally large establishment of Davenport and Alcock, of Marrickville, is also excellent. Good specimens of quality and workmanship are likewise shown by Messrs. Blackburn and Co., Mr. W. H. Simpson, Messrs. Forsyth and Sons, and Mr. Sharp, of Sydney; by Messrs. Hoffnung and Co., the importers; and by Mr. Cassin, of Wagga Wagga, as well as many others; altogether the leather exhibits leave nothing to desire, and the same may be said of the wool and food exhibits for which the colony is justly celebrated.

The mineral exhibits of New South Wales occupy a considerable space. The Mines Department, controlled by the Hon. E. A. Baker, M.P., Minister for Mines, has an extensive display of New South Wales minerals, fossils, and woods. The officers of this department—the Government geologist and curator of the Mines' Museum, Mr. Wilkinson, by whom the mineral collection has been arranged, and who is placed in charge, being the most energetic—have certainly brought together a fine collection, representing not only the vast natural resources of the colony, but also the geological formations of this important portion of Australia. One large case is devoted to specimens of gold-bearing quartz collected from the several gold mining districts. Almost every variety of gold-bearing quartz is shown. In some of the specimens, especially those containing pyrites and galena, the gold is not visible to the naked eye; while in others the precious metal is very conspicuous. Those from Walcha district are interesting, as showing cavities in the quartz, partly filled with milk-white quartz crystals, having gold deposited on these crystals. Another specimen from the Orange district, consisting chiefly of crystallised sulphide of iron, has gold deposited upon the faces of the pyrite crystals. There are other rich specimens from the Bonnie Dundee Reef, Parkes, Hawkin's Hill, Quong Tart's Reef, Braidwood; Mountain Maid, Copeland, Barrington, and other localities. Specimens also of the pyritic stone, with the associated granite rocks from the reefs at Braidwood. From the Adelong gold field are large pieces of gold-bearing pyritic quartz from the various reefs—as the Adelong United, and from a depth of 820 ft. in the Great Victoria Reef. There is a rich specimen of golden quartz from the Bald Hills, Forbes, which appears to have come from a narrow vein consisting almost entirely of gold; but one of the richest and most interesting of the reef gold exhibits is a handsome piece of the original Kerr hundredweight-nugget found at Hargraves in 1851, by an aboriginal; this is exhibited by Mrs. C. A. A. Suttor, of Allowaybank, Bathurst. Of alluvial gold there are exhibited 50 well selected samples from the different goldfields. In some of these the gold is very fine and scaly, in others it is of a coarse nuggety character and much waterworn; the colour of the gold also varies from a rich orange yellow to a pale yellow. These samples give a good idea of the character of the New South Wales gold. There is also a fine sample, 1 lb. in weight, of alluvial gold obtained at Araluen; this is exhibited by Mr. Johnson, of Araluen. Mr. Ebbelwhite shows a case of gold bearing pyritic quartz from the Ironolad Reef, at Cargo; this is also worth close inspection.

In the collection of tin ores are samples of lode and stream tin from almost every locality in which tin ore has been found in New South Wales. Of course the mines of New England occupy the most prominent place. The samples of cement and wash from O'Daly's and other mines at Vegetable Creek are very rich, as are also the washed samples from the numerous mines at Cope's Creek, from Elsmore and Karaula, on the Mackintyre, Wylie Creek, Tenterfield, Bandarra Creek, Silent Grove, Gulf Creek, The Glen, Craigend, Mann and Timbarra Ranges, Bingera, Oban, Burra Burra, in the Lachlan district, Mowamba, Monaro, Moonbah Range, Snowy River, &c. Of the lode tin are some beautifully crystallised specimens from Cope's Creek, as well as tin granite from Elsmore, Mole Table Land, and other localities in New England. These afford evidence of the extension and rich deposits of tin that we possess. Next to the tin are the copper ores from various parts of the country, such as Cobar, Milburn Creek, Wiseman's Creek, Peelwood, Cow Flat, Bingera, Mount Hope, Wellington, Belara, Oberon, Combing Park, Cotter and Queanbeyan rivers, Cargo, and Solferino, Mitchell's Creek, Monaro, Kiandra, Jones's Mount, Tuena, &c., amongst which are some fine specimens of native copper, red oxide, green and blue carbonates, yellow and green sulphides, and black oxides of copper.

A large case is devoted entirely to silver ores from the Boorook mines, sent specially by the International Exhibition Committee at Boorook; near these is another case containing ingots representing the amount of silver (25,000 ozs.) obtained during 12 months—15,000 ozs. being from Boorook; and 10,000 extracted from gold at the Mint. The Mining Department exhibits silver ores from Silent Grove, Moruya, Yass, Mylora, and Mitchell's Creek. Then there is antimony from Nundle, Gara, near Armidale, Lunatic, Solferino, Wallerawang, Grafton, and Bingera. Lead ore from Major's Creek, Moruya, Mitchell's Creek, Peelwood, Mylora Ravenswood, Merimbula, Glen Innes, and near Bathurst; and cinnabar from Cudjagong. There are rich iron ores from Bowenfels, Wallerawang, Nattai, and numerous other places; and adjoining these are samples of coal from all the principal seams opened out in the Newcastle, Anvil Creek and Greta, Illawarra, Berrima, and Bowenfels coalfields. In other cases are specimens of rocks and minerals. Along with the gold specimens are the principal varieties of green stones found in the colony, and exhibited by the Mines Department and the Paris commissioners; and also some cut topazes from New England, handsomely mounted in gold, exhibited by Mr. Warden Buchanan, P.M., of Armidale. The geological collection of the Department of Mines comprises numerous fossils arranged in the order of the geological formations to which they belong. On the labels it is stated that the fossils are principally from the collection of the late Rev. W. B. Clarke, M.A., F.R.S., recently purchased by the Government. The several formations are named upper silurian, devonian, carboniferous, permian, lower mesozoic, miocene, pliocene, pleistocene, and recent. Many of the fossils are very perfect and interesting.

To show in massive form the tin and copper metals, the Department of Mines has erected two large trophies of ingots of copper and tin, each about 15 ft. high. Messrs. Deer Brothers, show a case containing copper ores, from their mine at Frogmore, in blocks, and dressed for the smelter; also regulus, showing the first, second, and third, processes, and the refined copper in ingots. The Great Cobar Copper Mining Company shows samples of regulus and ores, amongst which are some splendid pieces of rich ore, especially of green malachite. The Thompson's Creek Copper Mining Company show massive pieces of yellow copper ores from the various shafts. The Mudgee district mineral exhibits occupy a conspicuous position in the nave. They include samples of antimony, gold, copper, and iron ores, a large block of good coal from a seam 21 ft. 4 in. thick, clay and bricks manufactured therefrom, fire-clay and moulding sand, honestone, marble, and fine white freestone; also some polished woods. In the midst of these stand a gold trophy—a gilded obelisk, about 13 ft. high, representing in mass the gold obtained in the Mudgee district, which is estimated to be 1,708,764 ozs. Close to this stands a trophy about 18 ft. high, exhibited by the Eskbank Iron Company, showing iron ore, with pig iron, castings and several descriptions of iron; also some good fire-bricks.

A large trophy is being erected by the Hartley Shale and Oil Company: it is about 30 ft. high, consisting of masses and pillars of kerosene shale, surmounted by bottles containing oil and the various products manufactured from this remarkable mineral oil shale. The Joadje Creek Company are also erecting a massive kerosene shale and oil trophy; the shale now in position appears to be of excellent quality. The Sydney, Melbourne, and Wallerawang Company is now placing in order the mineral exhibits of the Wallerawang district, including shale, iron ore, limestone, &c. The Gulph Lode Tin Mining Company shows some large blocks of lode tin in granite; and Mr. J. H. Butchart a quantity of fine lumps of lode and stream tin, of a peculiar and rich character, from the Gulf, New England. Mr. C. B. Lowe, of Goree, near Mudgee, has sent a varied mineral collection containing naturally polished specimens of petrified wood, from the diamond drifts, three large topazes, fossils, &c. The Hon. Saul Samuel, C.M.G., exhibits a block of decomposed basalt, containing opals, from Abercrombie. Mr. J. K. Hume, of Yass, shows a small collection of siluro-devonian and tertiary fossils from his district. Mr. Guy, of Bateman's Bay, exhibits samples of silver ore. From Bathurst district, Mr. J. Howard shows various minerals—antimony, gold, lead, and silver ores, slate gypsum, marble, magnesite, and magnesian salts. Some fine samples of iron ores are exhibited by Mr. J. Fountain, of Woodlands. Gosford, Brisbane Water, together with fireclays, sandstones, and soil from the same place. Mr. Conrad Icke, of Newcastle, has some ingots of nickel metal of various qualities, and fluids for soldering. The Gundagai Asbestos Company shows some splendid samples of asbestos from Mount Parnassus, Gundagai. This asbestos almost resembles fine white silk. A large sample of silver-lead ore from Cherry-field, near Yass, is sent by Mr. Patrick Fallon. Large blocks of coal from the various collieries in New South Wales are now being arranged in the gallery. Over these are hung the diagrams of the coal seams prepared by the Examiner of Coal Fields, Mr. J. Mackenzie, of the Mining Department. On the other wall space are hung the geological maps made by the Geological Surveyor, Mr. C. S. Wilkinson, together with maps of gold and silver fields, all exhibited by the Department of Mines. Mr. E. W. Rudder shows a geological map of the Macleay River District, county of Dudley.

In the gallery is a magnificent collection of the woods in New South Wales, exhibited by the Department of Mines, under the able superintendence of the Under Secretary, Mr. Harrie Wood. It comprises about 300 samples, each sample being polished on one side, and 3 ft. in length, and showing the thickness and bark of the tree. We may well be proud of the beauty and variety of our woods. This is one of the most important exhibits of New South Wales. The Australian Agricultural Company also show a splendid collection of polished woods, with a description on each piece, stating the size of the timber growing and its uses. The Parramatta committee of the International Exhibition exhibit a good collection of the woods of the Parramatta district; the specimens are partly polished and dressed, showing the wood under different conditions. Similar specimens of wood and bark are sent from the Inverell district. Some interesting and very curious specimens of old timbers are exhibited by Mr. W. Lucas. Some of them were taken from the old Brisbane mill; they consist of ironbark, stringy bark, and black butt, which had been in use 59 years, and some pieces of rafters 60 years old, and quite sound. There are also some pieces of piles of ironbark, which had been driven in Darling Harbour 48 years ago. With them is a specimen of blue gum, which has been in use only six years, and is now completely perforated by the teredo. These and several other specimens are valuable exhibits, as showing the durability of some of the woods of New South Wales.

The Department of Mines shows two samples of grass-tree gum, used for manufacture of varnish, together with a specimen of a living grass-tree, also a zamia palm, from which a peculiar scale-down is obtained; these trees both grow extensively in New South Wales. Some exhibits from Armidale, Tamworth, and other districts, are now arriving and being unpacked, so that a description of them must be left until a future time; indeed, many of the exhibits above mentioned are not yet finally arranged. We must, therefore, leave them for a more detailed reference hereafter. Mr. Henry Copeland, M.P., shows a case full of beautiful specimens of quartz crystals, from a

* Being Notes on a Course of Lectures on Mining, delivered by Herr Berggrath Dr. von Groden, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

reef at the Peel River; and Mr. John Lucas, M.P., exhibits a number of fine stalactites and stalagmites from the Binda caves, which make one long to visit and see these caverns in their natural beauty. Appropriately placed in the midst of the mineral court, and close to the gold exhibits, is the automaton balance, from the Royal Mint, Sydney; it is kept in constant operation, and shows how rapidly and accurately the coins of light, medium, and heavy weight may be detected. Mr. Hunt, the deputy master of the Mint, also shows a large collection of coins in and out of currency, and war medals.

Outside the Garden Palace, on the grounds near the main eastern entrance, the Department of Mines has erected a grand trophy—a large gilded pyramid over 60 ft. high, representing in bulk all the gold obtained in Australasia. The pyramid is divided by horizontal lines at the proper places, showing the mass or quantity of gold credited to each colony, and within these divisions are painted in blue letters the names of the several Australian colonies. The total quantity of gold represented is, we are informed, 257 tons 15 cwt. 1 qr. 26 lbs. The imposing appearance of this pyramid is somewhat marred by the uneven surface of the metal employed by the builder in the covering; had it been quite smooth it would have looked very solid. This trophy has its significance at this particular time, and we believe the suggestion originated from Mr. Harrie Wood, the Under-Secretary for Mines, that the gold production of all Australia should be represented in one mass at this the first International Exhibition held in Australasia. This golden pyramid is supported upon a square pedestal about 20 ft. high, in the sides of which are placed vertical sections cut out of the coal seams worked in the Newcastle, Greta or Anvil Creek, Illawarra, and Lithgow or western coalfields. These vertical sections of coal are exhibited by the various colliery proprietors, and they afford a good idea of the vast thickness and quality of the extensive coal deposits of New South Wales. The Mines Department deserves great credit for the care that has been taken to have the important mineral branch of our national wealth properly represented before the world.

MANCHESTER GEOLOGICAL SOCIETY.

The usual monthly meeting of members was held on Tuesday at Manchester (Mr. JOHN AITKEN in the chair), and amongst the communications read and discussed were a couple of papers dealing with subjects of interest to mining engineers.

Mr. J. S. MARTIN (hon. sec.) read a letter from Lord Lindsay, M.P., thanking the members for the honour they had done him in electing him president of the Society.

IMPROVED BRAKE FOR COLLIERY WINDING-ENGINES.

Mr. J. BESWICK PERRIN next read a paper on Burns' Patent Brake, and its advantages as contrasted with other brakes applied to stationary engines, and especially with regard to the controlling of colliery winding-engines. The majority of mines in that district he said were worked through or by perpendicular shafts, which ranged from 100 to over 800 yards in depth, and rapid transit was a desirable desideratum for both masters and colliers. The more rapidly a cage, either with a dead or living freight, could be raised with perfect safety the better both for the masters and the men, but everyone knew that speed without a thoroughly efficient check was a death dealing factor, and who did not remember the old methods of pit winding, with the constant dangers attending them. Speed had been the chief aim and end of mechanical engineers from the beginning, but the chief problem now was to limit at will the speed which had been accomplished—how they could most efficiently find a curb to check the iron horse working with superheated steam. There was not time to go into a history of the primitive brakes which had been invented by their engineering ancestors. With regard to the brake with which that paper was more especially dealing, he might state that the chief aim of the inventor had been to supply a want which people interested in mining operations had experienced for years. The greatest leverage that could be obtained with the present system of strap brake applied by the foot was about 20 or 30 to 1, and supposing the weight of the man with his foot applied to the brake equalled 120 lbs. they only got a little over 1 ton on the drum of the engine. Burns' brake was founded on the law of the friction of solid bodies. The friction which a given pair of solid bodies with their surfaces in a given condition were capable of exerting was simply proportionate to the force with which they were pressed together. Experiments which had been made to test the above law had proved it correct. Supposing a block of brass weighing 100 lbs. were placed on a flat smooth surface of cast-iron it would require a force of 22 lbs., or 11-50ths of the whole, to draw it along; if another 100 lbs. of the same size and shape were attached to the side of the other it would require 44 lbs. to draw it along (still 11-50ths of the whole weight), but let the two blocks be placed upon the first, or with the same weight, with only half the rubbing surface, experiments proved that the friction would be still 11-50ths to drag the two weights over the cast-iron, although the surfaces in contact were diminished by one-half. In Burns' brake the main feature was undoubtedly the short block, and from what had been said it would be seen that it was no disadvantage with regard to the amount of friction. The advantage was that by applying it they could get a considerably greater amount of leverage, and the amount of leverage could be got up to 220 from 1, which gave a pressure on the drum, supposing 1½ cwt. as the weight of the engine, of 16½ tons. Two or three brakes could also be used, which gave two or three times the above pressure on the drum, and with the brake the engines need never be reversed whilst banking. Perfect control was secured, a boy being able to work a 12-inch coupled engine, and any pressure could be applied, from 1 oz. up to 30 tons with single, and up to 60 tons with a double brake, which ought to be enough, and in practice was so. [The mechanical details of the brake having been described by means of diagrams, a short discussion took place.]

The CHAIRMAN said he could not go into the details of the brake, but it seemed to him very simple, and that it would work very well.

Mr. PILKINGTON said the only objection he could see was that it would have a tendency to drag heavily on the drum, and under this drag any weak point might give way.

Mr. WILD had always thought a double brake strap was the best for stopping either suddenly or gradually any powerful engine. It seemed to him that with Burns' brake there would be a tendency to disturb the fixings more than there would be with a double strap, especially if the fixings were not very strong. He also thought that a little grease or wet getting between the short block would sooner destroy the friction than the double strap brake.

Mr. HOLLINGWORTH thought the simplicity of the mechanism very good; the principal objection to the short block was that it might have a tendency to disturb the drum or fixings.

Mr. PERRIN, in replying upon the discussion, said he had seen Burns' brake in use, and it worked very successfully.

THE INCrustATION OF BOILERS AT COLLIERIES.

Mr. W. J. GRIMSHAW, F.G.S., read a paper "On Incrustations and Deposits in Steam Boilers," with special reference to boilers in use at collieries. Very few people, he said, who had had steam-boilers under their supervision had been fortunate enough to escape trouble caused by the feed water, and more especially must this trouble have been experienced by those in charge of colliery boilers, which it was sometimes needful to feed with "mine" or mineralised water, simply because no unpolluted water supply was available. Calcareous incrustations were more difficult to deal with than sedimentary deposits. These incrustations varied in their constituents, but generally they contained either carbonate or sulphate of lime in considerable proportions. Both these substances were difficult to deal with, and it was no use trying haphazard remedies, the safest plan being in the first place to get the water analysed, and to obtain instructions from the analyst. Water from collieries in working or that had been worked necessarily flowed upon the floor of the mine. In many instances it made its way through a solid barrier of coal in the hill. He had known a case of water standing against a barrier of 300 yards making its appearance in the hill on the lower side thereof, while the coal face and roof seemed perfectly dry. Water that has passed over or through the hill generally deposited a fine sediment that did not cake or crystallise. This sediment naturally rested on the top of the flues and the bottom of the boiler. It was a good non-conductor of

heat, and consequently the flues got red-hot in a comparatively short time. When the boiler was blown off all the inside was coated with it like whitewash, and it had to be swept away when dry. This substance contained silicate of magnesia and a small quantity of lime, and so far as he was aware nothing was known that would dissolve it without injuring materially the iron of the boiler, the only remedy being a change of water. After referring to various methods of dealing with polluted feed-water, Mr. Grimshaw observed that acid water attacked zinc or any bright metal much more readily than it did iron, showing that some saving might be effected by placing zinc plates in the interior of the boiler. Muriate of tin was manufactured in shallow iron pans by pouring muriatic acid on granulated tin. As long as there was an excess of tin the iron was comparatively uninjured, and placing zinc plates in boilers was simply following up this principle. In Germany, more especially where the water contained lime, these plates were connected by wires with a Bunsen battery, and the electrical action caused the foreign matter in the water to be thrown down in a sediment. He was not aware that this method was adopted in this country, but it certainly seemed worth a trial, the needful apparatus being comparatively inexpensive and the attachment easy. The best remedy, however, for bad feed water was to obtain better, and though the cost of so doing might appear excessive, it generally paid well in the end.

A short discussion followed the reading of the paper, in the course of which Mr. J. Dickinson, Her Majesty's Inspector of Mines, said he wished to draw attention to the great service rendered to steam users by the facts and information brought together by the boiler insurance and inspection societies.

A paper was also read by the Rev. A. Crofton, M.A., on "Strap and Wasdale Crag."

GEOLOGICAL SOCIETY OF LONDON.

Nov. 19.—HENRY CLIFTON SORBY, F.R.S. (President), in the chair.

Edmund Knowles Binns, Heavygate-road, Sheffield; and J. Dawson, Somerset-place, Bath, were elected Fellows of the Society.—James Booth, the Grange, Ovenden, Halifax; P. N. Rose, B.Sc., Colville-square; Edgar S. Cobbold, Chasewood Lodge, Ross, Herefordshire; D. M. Ford Gaskin, Town Hall, St. Helens, Lancashire; John Farran Penrose, Parkenver, Redruth, Cornwall; Stephen Seal, Coxbench House, Darfield, near Barnsley; Thomas Tate, Rushton Villas, Thornbury, Bradford, Yorkshire; and Richard Taylor, Marske-by-the-Sea, were proposed as Fellows of the Society.—Syed Ali, B.A., Hyderabad, Deccan, India; Wynne Edwin Baxter, High-street, Lewes, Sussex; Arthur Robert Boyle, Engineers' Office, Lime-street Station, Liverpool; Rev. John Lowry Carrick, M.A., Spring Hill, Southampton; Prof. Edward Waller Claypole, Antioch College, Yellow Springs, Ohio; Rev. T. Down, Newlands-terrace, Bootle, Liverpool; Rowland Gascoyne, Mexborough, near Rotherham, Yorkshire; George M. Henty, Georgetown, Colorado; Henry Irwin Jenkinson, Keswick, Cumberland; John Marshall, F.R.A.S., Albion-place, Leeds; Josiah Martin, Three-Kings College, Auckland, New Zealand; Charles Maxted, Providence Cottage, Well-road, Hampstead; Edward Provis, M.A., Worcester-street, Bromsgrove; Thomas Wm. Rumble, the Cottage, East Hill, Wandsworth; Rev. John Reuben Taft, St. George's, Wolverhampton; Octavius Albert Shrubsole, Reading; Samuel Richard Smyth, Blenheim-terrace, Old Trafford, Manchester; William Neish Walter, Hillpark-terrace, Newport, Fife; and Joseph Pepper Wright, Sunnybank-terrace, Undercliff-lane, Bradford, Yorkshire, will be balloted for as Fellows of the Society.

The following communications were read:—

- 1.—"Supplementary Note on the Vertebrae of Ornithopsis, Seely (=Eucamerotus, Hulke)," by J. W. Hulke, F.R.S., F.G.S.
 - 2.—"On the Concretionary Patches and Fragments of other Rocks sometimes contained in Granite," by John Arthur Phillips, F.G.S.
 - 3.—"Certain Geological Facts witnessed in Natal and the Border Countries during nineteen years residence," by the Rev. G. Blencowe, communicated by the Rev. H. Griffith, F.G.S.
- The next meeting will be held on Wednesday, when the following communications will be read:—1. "The Gneissic and Granitoid Rocks of Anglesey and the Malvern Hills," by Dr. C. Callaway, F.G.S.; with an Appendix by Prof. T. G. Bonney, F.R.S., Sec.G.S.—2. "Petrological Notes on the vicinity of the upper part of Loch Maree," by Prof. T. G. Bonney, F.R.S., Sec.G.S.—3. "Some undescribed Comatulæ from the British Secondary Rocks," by P. Herbert Carpenter, M.A.; communicated by Prof. P. M. Duncan, F.R.S., F.G.S.

EXPLOSIVES COMMITTEE.

The first series of experiments will be made at Sevecock Quarry, near Chacewater, on Tuesday. The object of this first series is simply to test the relative economy of the different explosives as used in hard ground, and the following are the arrangements for the trial:—

- 1.—A number of holes will be previously bored in different parts of the quarry to depths varying from 20 in. to 40 in., but burdened equally as far as possible. These holes will be numbered.
- 2.—The holes will be selected in rotation by the competitors; the order of selection will be determined by a preliminary ballot. If possible, each will be allowed to select three holes.
- 3.—The holes will be charged and fired as far as possible in the order settled by the preliminary competition, except that those to be charged with common powder will be fired first.
- 4.—The representative of powder will be allowed to use what quantity he pleases, but the total weight used for the three holes will be registered, together with the depth of the holes; the value of the powder so used will be the standard by which the amounts allowed to the other competitors will be determined, with reference to net market prices.
- 5.—After each set of holes has been fired the umpires shall examine and record the results of the shots.
- 6.—The secretary of the explosives committee will act as umpire for the committee, and the competitors present will choose some one to act as their umpire with him.
- 7.—In case of disagreement of the umpires they shall themselves choose a referee from among the gentlemen present, whose decision on the point in question shall be final.
- 8.—The following explosives will probably be tried:—Powder, compressed powder, Espir's powder, tonite, and dynamite. Should the representatives of any other explosives desire to compete they must send in their names to the secretary, with a reference to some Cornish mine where the explosive is in use.
- 9.—All explosives, if already in the market, will be provided by the committee, and will be drawn from stocks recently supplied to the mines in Cornwall. J. H. COLLINS, Secretary.

SCOTCH PIG-IRON.—The shipments of Scotch pig-iron to Nov. 9 1879, amounted to 493,664 tons, against 348,937 tons during the same period of 1878, and 400,872 tons ditto 1877.

DUNN'S ROCK-DRILL.—For some time past the efficiency of the new rock-drill patented by Mr. W. M. DUNN, of Goswell-street, has been acknowledged by the practical miners who have been working it, and it will be seen from the advertisement in another column of to-day's Journal that in consequence of the increasing demand for the machine the manufacturers have determined to sell them from 35½ upwards, according to size and power required. At all places where they are at work in England, Scotland, Wales, and Belgium, they have given very favourable testimonials, and they are described as the best machines in the market. In those competitive trials where Dunn's rock-drill has been worked by the side of some other well-known rock-boring machines they are declared by both masters and workmen to have come out always ahead. It has proved itself to be one of the fastest in the country, and it is claimed that it can be kept constantly at work, and not liable to get out of order or require to be laid up for repairs. The mining community has regarded a cheaper and effective rock-drill as a great want of the mining industry, and one that any miner can take up and work. Dunn's rock-drill is admitted to be a really efficient labour-saving mining machine, which has been perfected by practical working in mines and quarries by Mr. Dunn, and none has given better results. Dunn's rock-drill

is recommended as fulfilling all the conditions of a good rock-drill, combining simplicity and cheapness with great strength and endurance—features which give it special advantages.

WINDING-UP COMPANIES—IMPORTANT DECISION.

In the Supreme Court of Judicature—Court of Appeal—on Monday, there was an appeal from an order made by Vice-Chancellor Malins, in February last, to wind-up the Diamond Fuel Company. The company was formed in 1873 for working certain patents for making artificial fuel, and for granting licenses for the use of those patents. Circumstances were alleged showing misconduct on the part of the promoters and directors. After the winding-up order had been made, and an official liquidator had been appointed, an appeal was presented in the name of the company. The preliminary objection was taken to the appeal that the liquidator alone was entitled to act on behalf of the company.

Mr. J. Pearson, Q.C., and Mr. Farwell, were for the appellant; Mr. Glasse, Q.C., and Mr. C. Turner were for the petitioner; Mr. Higgins, Q.C., and Mr. Whitehouse were for shareholders who supported the winding-up order; Mr. Seward Brice was for the official liquidator.

Lord Justice JAMES was of opinion that the order of the Vice-Chancellor ought to be affirmed. It was not necessary to consider whether the appellant had the authority of the company to present the appeal, having regard to the time at which instructions were given to present the appeal. His lordship thought that the Vice-Chancellor was warranted in making the winding-up order at the time when he made it. The real ground for the order was that the company had practically, to all intents and purposes, come to an end, without the slightest prospect of resuscitation. The capital expended on the works had been all lost, and 3000l. had resulted from the sale of them. The real substantial business and property of the company were the works that they had established and had carried on at enormous loss. They sold those works, and from that time nothing had been done for carrying on the business of the company or effecting its objects. The English patents had expired, or were about shortly to expire. His Lordship was satisfied that the patents were merely a nominal asset of the company. The Vice-Chancellor was quite warranted in taking this view of the case. The company had practically ceased to carry on its business, the carrying on of which had become practically impossible, the petitioner alleging that money could be recovered from the directors, and, in fact, since the winding-up order was made an order had been made for the refunding of 5000l. by one of the persons implicated for distribution among the shareholders; it was just and equitable that the company should be wound up.

Lord Justice BAGGALLAY concurred.

Lord Justice THESIGER also agreed that the order of the Vice-Chancellor must be affirmed. It might be supported, not merely upon one isolated fact, as to which it might or might not be impeachable by the appellant, but by a combination of circumstances which, when taken together, constituted a very strong case for the making of the order.

Lord Justice JAMES added that it must be understood that in future when an order absolute had been made for winding up a company, and an appeal from the order was presented in the name of the company and no one else was responsible for costs, the Court would always be ready to entertain an application for security for costs.

FOREIGN MINING AND METALLURGY.

The revival in industry appears to be becoming more decided in Belgium, so far as the iron trade is concerned. At any rate, it is becoming general, instead of being comparatively local. Belgium, Germany, and France have all shared in the comparative prosperity which was first noticed in the United States; in France, especially, a good current of orders for iron has been noted of late, and prices have sensibly advanced. The railway companies have hastened to give out orders, as they anticipate still higher prices, and it is long since French and Belgian rolling mills have received so many orders. An Italian company is negotiating in Belgium for the delivery of an important number of locomotives and open and closed trucks, but it cannot now prescribe its own time for delivery.

The Belgian steelworks are well occupied, orders having come to hand freely. The Delloye Mattheien, the Syllie Pauwels, the Marchot, the Goffin, the Centre, and the Esperance rolling mills are all overdone with orders. The last two companies possess two differential Louth and Deby rolling mills, which at a period of pressure like the present yield large profits, as their production is about double that of other apparatus. The Monceau Blat Furnaces Company has purchased a quantity of old rails at 4½ 8s. 9d. per ton, for exportation to the United States.

A better distribution of rolling stock has been effected on the Belgian State Railways, so that deliveries of coal have been made more regularly. The Minister of Public Works has paid careful attention to the complaints made by industrials upon the subject. He has made enquiries in order to be enabled to reply to a letter which the General Committee of the Belgian Coal Trade had addressed to him; and it appears as the result of the official enquiries thus instituted that the movement of Belgian coal to France has been much more considerable during the past autumn than it was during the corresponding period of 1878, and that a larger number of trucks have in consequence of this crossed the Belgian frontier. The Minister of Public Works states that the administration of the Belgian State Lines makes good as far as possible at this period of the year the inadequate supply of rolling stock on the Northern of France Railway, and that new credits will be solicited for an extension of plant. The general tone of the Belgian coal trade has been firm, although there has been no advance in prices. Some contracts have been obtained in the Mons basin. A contract for 2500 tons of gas coal has been let at Ostend at 9s. 8d. per ton.

Cold weather and the expectation of a rigorous winter have occasioned a good demand for domestic qualities of coal at Paris. Coal of this description has ranged in the French capital between 36s. and 40s. per ton. Industrial coal has also been in good demand, and an advance in quotations is anticipated. In the Nord and the Pas-de-Calais the state of the coal trade is satisfactory, almost all qualities being in fair demand. In the basins of the Centre the markets also present a good tone, and prices are tending upwards. The profits realised by the concern known as the Naval and Railway Forges and Steelworks Company amounted in 1878-9 to 62,233l., as compared with 56,081l. in 1877-8. Out of the profits of 1878-9 only 14,444l. was applied to the payment of a dividend for the year. This dividend was 10s. per share, or the same amount as the dividend paid for 1877-8. A large proportion of the profits of 1878-9 was applied to depreciation and sinking fund purposes.

OUR RAILWAYS: SHOULD THEY BE PRIVATE OR NATIONAL PROPERTY?—Under this title Mr. EDWARD J. WATHERSTON has just issued (London: Edward Stanford, Charing Cross) an instructive pamphlet, in which he discusses the present position of railways, and the means by which they may be made more useful to the public and more profitable to the shareholders. He suggests a general amalgamation, by which the expense of separate boards would be avoided; the carriage of small parcels at one uniform rate for the whole kingdom, and a comparatively uniform passenger rate. The pamphlet contains information and suggestions which are well worthy of consideration.

CHEMICALS, MINERALS, AND METALS.—Messrs. J. Berger Spence and Co. (Nov. 22).—Alum: Loose Lump, 5s. to 6l. 10s.; ground, 7l. 15s.—Arsenic: Best white powdered, 11l.—Bleaching Powder, 7l. 15s.—Borax: Refined English, 38l.—Coppers: Green, 55s.; white, 6l. 15s.—Copper: Sulphate, 23l. 17s. 6d.—Nitrate of Lead, 31l.—Nitrate of Soda: 18s. 9d.—Potash: 11½d.—Saltpetre: Refined English, 24l. to 27l.—Soda: Cream Caustic, 11l.—Sulphate of Zinc, 8l. 10s.—Sulphur: Roll, 7l. 15s.; flour, 10l. 10s.—Tin crystals, 75d. per lb.—White lead, 18l.—Barytes: Carbonate, 90s.—Brimstone: Best third, 5l. 5s. 6d.—China-Clay, 38s.—Manganese: Sulphate, 16l. 15s.—Mineral White, 40s.—Ochre, 5l. 10s.—Oxide of Zinc, 20l. 10s.—Talc, 5l.—Umber, 79s.—Copper: Best Ingot, 72l.—Lead: Best soft English, 17l.—Pig-Iron, 41s.—Spelter: English, 18l. 10s.—Tin, 85l.—Cream of Tartar: Crystals, 114s.; powdered, 118s. 3d.—Charcoal: Best stick, 5d. per bushel; field burnt, 7d.—Globe Steam-Boiler Powder, 18s. per cwt.—Naphtha: Miscible, 5s. 3d.—Resin: Common strained, 5s. 10d.—Ultramarine, 50s. to 100s.

per, Marbella Iron, and Monkland (ordinary), each 1s. 6d., and Benhar, 1s.; while Rio Tinto (shares) have declined 6s. 3d., Clyde Coal, 6s., Omva and Cleland, 3s., and Huntington, 1s. Oakbank Oil have not altered.

stamper are required. Were a man to take the ore at the surface and erect only temporary machinery to take out the same he would have a good surplus in hand (that is, if he knew his business). He further remarks that water can be brought to the works from below the large flour mills at Ballisodare by a mile of open cutting in almost an unlimited quantity for pumping, crushing, stamping, compressing air, and working boring machines; the latter machinery may be fixed so near the works that only a few fathoms of pipes to carry the air down would be required for years. To carry out this mine he would, under the present appearances, recommend the erection of good permanent machinery, including water-wheel, as he is confident the surface appearances warrant such. A large capital is not required, as it is his belief the ancients, from their having no sale for zinc ore, and not knowing how to separate the lead from it, left it in the lode in quantities to pay under our present system of cleaning and smelting. No steam-power or ore carriage is required in working this mine to any extent, and he believes it to be a valuable property if worked and well managed.

SILVER MINING IN CORNWALL.

The very satisfactory profits realised from silver mining in foreign countries is thoroughly recognised to a large number of British capitalists, and it is now proposed to develop a promising silver mine in Cornwall, where, it is remarked, the lodes are equally rich, and there is the great advantage that the mines being within easy reach of the board of direction far more control than usual can be exercised. The Lady Ashburton Silver Mining Company has been incorporated with limited liability, and a capital of 30,000*l.*, in shares of 1*l.* each, to purchase and fully develop the silver and other lodes laid open in a portion of the Ashburton property, near Callington, held for the usual term of 21 years at 1-20th dues. The property is eligibly situated within two miles of the shipping port, so that there is every convenience for the carriage of minerals and materials. From the prospectus, which will be found in another column, it will be seen that in the opinion of the mining authorities who have inspected this property the lodes have been under powerful mineral influence, and judging from, and relying on, their statements and opinions, which no doubt had much careful consideration before being advanced, it is to be confidently expected that the district, and more particularly the Lady Ashburton Mine, will soon be very prominently before the mining world.

A very favourable opinion of the lodes is expressed by Mr. George Henwood, whose name is well known to the readers of the *Mining Journal*. He says, among other things:—"Had these lodes been in Mexico, California, Nevada, India, or any other of the foreign silver mining countries of the world, their richest ore formations would have been long since reached, and would now be working on a very extensive scale, and at depths probably of 100 and 150 fms., producing such considerable quantities of rich ore as to ensure the shareholders very large dividends." Also Mr. James Wilcocks, who superintended the exploration of the Lady Ashburton Mine for Dr. Sargeant, of Callington (the owner), says that No. 1 lode is about 3 ft. wide, and carries a leader of silver already from 4 in. to 5 in wide, although only yet opened to the depth of 4 fms., some of the silver ore broken from this part of the lode having been sold to Messrs. Sheldon, Bush, and Co., of Bristol, at 134*l.* per ton, as per sale ticket, and some of the selected ore has produced as much as 2000 ozs. of silver per ton, as per assay note! They could not work any deeper for want of an engine and requisite pumping appliances to keep the workings drained, but for which he has not the slightest doubt they would have quickly opened out a very rich mine. He superintended the mine for Dr. Sargeant, of Callington, and sincerely regrets, as he still does, that he could not command the comparatively little amount only needed, say 3500*l.* (perhaps not more than 3000*l.*), for necessary machinery, and sufficiently developing the mine to realise a great fortune.

Silver mining in Cornwall being a comparatively new industry reference is very appropriately made to similar deposits abroad, the prospectus mentioning that Mr. Oppenheim, of Gresham House, Old Broad-street, London, E.C., the owner of a silver mine in California, and who has had many years mining experience in that country as well as in Nevada, having seen some of the ore of the Lady Ashburton lode, pronounces it precisely similar in character and richness to the silver ore of some of the lodes of those countries. Indeed, he states that if he had not been told to the contrary, he would unhesitatingly have said it had been broken from a California or Nevada lode. The company has a strong board of direction, and as the shares are to be allotted in the order of application capitalists are offered the opportunity of acquiring an interest without the payment of premium, which too often leaves them without a fair interest on the amount embarked.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,

MINEOWNERS, STOCK AND SHARE DEALERS, &c
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

PATELEY BRIDGE.—This mine undoubtedly is looking well, and the company consists of 7500 shares (1*l.*) fully paid up, and 14,000 upon which 3s. per share is due, and the latter forms the working capital. In reference to the finances, we understand 200*l.* would cover all liabilities. The mine has been fully set up with all necessary and new machinery, and is about paying cost, but with one end worth 4 tons of lead per fathom, another 2 tons, and with a course of ore 60 fathoms in length, it would soon make good profits.

The ends in a mine are the crucial tests of its value. They are driven in whole ground, and every fathom so driven adds to the reserves to be taken away by winzes and stopes. Say, for instance, that the ends in a 50 and 60 fm. level are worth 50*l.* per fathom each—every 10 fathoms driven of that value opens out for the length of the mere level itself 500*l.* worth of ore; but also it is assumed to be of the same value 5 fathoms above and 5 fathoms below, which would give 5000*l.* for each level. This is proved by opening out the intermediate ground by winzes and stopes, and when they are valued at so much per fathom each the aggregate shows within a little what a mine ought to return in a month, or in a certain number of fathoms of ground opened.

Our correspondent on South Frances writes—"I have noticed your remarks in the *Mining Journal* respecting South Frances, and also Capt. James, and I perceive he still persists in avoiding the real position of the mine, which I think ought to be answered, and shall be glad to see my remarks published." We think it best, however, to wait till after the meeting, when it will be seen whether many of the large and influential shareholders have sold out or not.

In the *Mining Journal* of June 7 we referred to the fact that the Prince of Wales Mine, near Tavistock, had upon a very small outlay returned copper ores of the value of 54,873*l.*, and paid 6720*l.* in dividends. We also stated that certain parties having purchased the majority of the mine determined, against our advice and remonstrance, as well as against the advice of the agents, to erect steam stamps, and explore for tin, in addition to copper, and that upon this work about 2000*l.* were spent, and literally thrown away. Thus when the small engine became overpowered by the water at the 90 fm. level on the copper lode, the shareholders, disappointed in regard to the outlay on tin, refused to make the necessary outlay for the erection of a larger engine to work deeper in the copper, and the bottom of the mine has ever since been under water, though the agents have always had the conviction that the erection of a larger engine would continue to open out a good and profitable mine. We added that it was, therefore, compulsory to wind up the company, in order to clear off the debts, and that it would be sold by auction as a going concern in one lot, and to anyone wanting a good spec. for a company it offered great advantages.

It is singular, too, that we followed up our remarks upon that occasion by explaining the position of Crebor, shares of which were then at 5s. each, and concluded: "We expect another call of 1s. 6d.

or 2s. at the next meeting. After this the mine ought to be made to pay, and shares are a good and a very cheap speculation."

To return, however, to the Prince of Wales, certain forms under the Stannaries Act, as well as communications with the lords, had to be made before the mine could be advertised as a going concern, which it was last week and the week before in the *Mining Journal* and in the local papers. It has now been purchased in one lot as a going concern with all its machinery, &c., including two steam-engines and water-wheels for crushing, &c., for the sum of 860*l.*, by Capt. Andrews, of Wheal Crebor; and it is this gentleman's intention to form a cost-book company, in 12,000 shares, issued at 7s. 6d. each, and offer them without any premium or promotion money whatever to the old shareholders in the Prince of Wales Company. This would give 4500*l.*, and leave ample funds to purchase and erect a larger engine, and sink the mine deeper, after paying the purchase-money of 860*l.*, and assuming that not more than half the shares will be taken up by the old shareholders, of those remaining Capt. Andrews would retain 1000 at 7s. 6d. We should take 1000 at 7s. 6d., others 1000 each, and we shall be happy to make up a list for any of our friends desirous of joining at cost price, and before they rise, as doubtless they will, to a considerable premium.

The average price of 1847 tons of copper ore sold at Swansea, on the 25th, was 13s. 3*d.* per unit. Some of it fetched 14s. per unit.

At D'Eresby Mountain the sump has now been cleared below No. 5, and the lode altogether is 3 fms. wide, and the part sinking on 3 to 4 yards wide, is worth 1½ ton per cubic fathom, or 3 tons for the width sinking upon. In a stope near the sink the lode is of the same value.

It will be seen that the ends at Glenroy are both improving. For some time shares, with 4*d.* paid, have been selling at a few shillings.

We learn by telegram that the sampling at Wheal Crebor is 489 tons, of which 116 tons are of the richest quality. This sampling is supposed to be worth over 2000*l.*, but we shall be better able to speak on this point when we get the assays next week. If it realises 2000*l.* the profit would be 1300*l.* And, as, during the raising of this ore, the agent states he has only taken away one-third of what he has discovered, he has thus added 4000*l.* to the reserves of the mine in two months.

SATURDAY, NOV. 22.—Market rather firmer. Van, 21 to 22; Great Laxey, 18 to 19; Roman Gravel, 11 to 11½; Tankerville, 5 to 5½; Leadhills, 3½ to 4; Herodfoot, 2½ to 3; Grogwinion, 3½ to 3¾; East Van, 2 to 2½; Pateley Bridge, 15s. to 20s.; South Darren, 2½ to 3; Carn Brea, 50 to 55; Dolcoath, 50 to 55; Dolcoath, 50 to 55; East Darren, 2½ to 3; West Darren, 10 to 11; West Frances, 11 to 12; South Condurow, 13 to 14; Crebor, 6½ to 7½; Mellanear, 4 to 4½; West Tolgus, 26 to 28; East Caradon, 2½ to 3; Parys Copper, 15s. to 16s.; East Crebor, 25s. to 27s. 6d.; Panullicio, 4½ to 4¾; Don Pedro, 14s. to 15s.; Richmond, 9 to 9½; Santa Barbara, 40s. to 45s.

MONDAY, NOV. 24.—Market very quiet, and prices nominal. Dolcoath, 50 to 55; Carn Brea, 50 to 55; Tincroft, 15 to 16; South Frances, 10½ to 11½; West Bassett, 11 to 11½; West Frances, 10 to 12; Peever, 16 to 17; Crebor, 6½ to 7½; Marke Valley, 25s. to 30s.; East Caradon, 2½ to 3; Parys Copper, 15s. to 17s. 6d.; Van, 21 to 22; Roman Gravel, 11 to 11½; South Darren, 2½ to 3; Glenroy Lead, 10s. to 15s.; Herodfoot, 2½ to 2¾; Don Pedro, 15s. to 17s. 6d.; Frontino, 2½ to 2¾; Javali, 7s. to 8s.; Cape Copper, 31 to 32.

TUESDAY, NOV. 25.—Market generally firmer. Van, 21½ to 22½; Great Laxey, 18 to 19; Roman Gravel, 11 to 11½; South Darren, 2½ to 3; East Van, 2 to 2½; Leadhills, 3½ to 4; Herodfoot, 2½ to 2¾; Pateley Bridge, 15s. to 18s.; West Asheton, 1½ to 2½; Crebor, 7½ to 7¾; West Seton, 45 to 47½; West Tolgus, 26 to 28; Mellanear, 4 to 4½; Parys Copper, 15s. to 17s. 6d.; East Crebor, 25s. 6d. to 27s. 6d.; East Caradon, 2½ to 3; Devon Great Consols, 4 to 4½; South Condurow, 13½ to 14½; Tincroft, 16 to 17; Peever, 16 to 17; West Frances, 11 to 12; Peever, 16 to 17; Agar, 5 to 5½; South Frances, 11 to 11½; Dolcoath, 50 to 55; Carn Brea, 50 to 55; East Pool, 19 to 21.

WEDNESDAY, NOV. 26.—Market more active, and stock scarce. South Caradon, 60 to 70; West Seton, 45 to 50; Crebor, 7½ to 8; Devon Great Consols, 4½ to 5; West Tolgus, 26 to 28; Hington Down, 10s. to 12s. 6d.; Mellanear, 4 to 4½; Marke Valley, 25s. to 30s.; Parys Copper, 16s. 6d. to 18s. 6d.; East Crebor, 25s. 6d. to 27s. 6d.; Carn Brea, 50 to 55; Dolcoath, 50 to 55; Cook's Kitchen, 3 to 3½; East Lovell, 2½ to 2¾; East Pool, 19 to 21; South Condurow, 13½ to 14½; Grenville, 5 to 5½; Peever, 16 to 17; West Frances, 11 to 11½; Tincroft, 16 to 17; Peever, 16 to 17; West Bassett, 11 to 11½; West Frances, 11 to 12; Wheel Basset, 3 to 3½; Grenville, 5 to 5½; Van, 21½ to 22½; Tankerville, 4½ to 5½; Great Laxey, 18 to 19; Roman Gravel, 11 to 11½; Pateley Bridge, 15s. to 17s. 6d.; West Chiverton, 2 to 2½; Grogwinion, 3½ to 3¾; Herodfoot, 2½ to 2¾; Leadhills, 3½ to 4; Bodidris, 15s. to 20s.; Wye Valley, 12s. 6d. to 17s. 6d.; West Wye Valley, 12s. 6d. to 17s. 6d.

THURSDAY, NOV. 27.—Market continues very firm, and prices are as follows:—Carn Brea, 50 to 55; Cook's Kitchen, 3 to 3½; Devon Great Consols, 4½ to 5; Dolcoath, 50 to 55; East Caradon, 2½ to 3½; East Lovell, 2 to 2½; East Pool, 19 to 21; East Van, 2 to 2½; Glenroy Lead, 10s. to 15s.; Great Laxey, 18 to 18½; Grogwinion, 3½ to 3¾; Herodfoot, 2½ to 2¾; Hington Down, 10s. to 12s. 6d.; Leadhills, 3½ to 4; Mellanear, 4 to 4½; Marke Valley, 1½ to 1½; Parys Copper, 17s. to 19s.; Pateley Bridge, 15s. to 20s.; East Crebor, 25s. 6d. to 27s. 6d.; Roman Gravel, 11½ to 11¾; South Caradon, 65 to 75; South Condurow, 13 to 14; South Darren, 2½ to 3; South Frances, 11 to 11½; Tankerville, 5 to 5½; Tincroft, 16 to 17; Van, 21½ to 22½; West Asheton, 2 to 2½; West Bassett, 11 to 11½; West Frances, 11 to 11½; West Lovell, 2 to 2½; West Seton, 45 to 47½; West Tolgus, 26 to 28; Wye Valley, 12s. to 20s.; Agar, 5 to 5½; Wheel Basset, 3 to 3½; Crebor, 7½ to 7¾; Grenville, 5 to 5½; Peever, 16 to 17; Wye Valley, 15s. to 20s.; Cape Copper, 33 to 34; Don Pedro, 15s. to 20s.; Javali, 7s. to 8s.; Panullicio Copper, 4½ to 5; Pestarena, 5s. to 6s.; Richmond, 9 to 9½.

FRIDAY, NOV. 28.—Settling Day. Market very firm, at a great advance in prices generally. Carn Brea, 57½ to 60; Dolcoath, 55 to 57½; East Pool, 20 to 22; South Condurow, 14 to 15; South Frances, 12 to 12½; Tincroft, 16½ to 17½; West Bassett, 11 to 12; West Frances, 12 to 13; Agar, 5 to 5½; Wheel Basset, 3 to 3½; Grenville, 5 to 5½; Peever, 16 to 21; South Caradon, 65 to 75; West Seton, 45 to 50; West Tolgus, 26 to 28; Crebor, 7½ to 8; Devon Great Consols, 5 to 5½; East Caradon, 2½ to 3½; Mellanear, 4½ to 4¾; Marke Valley, 25s. 6d. to 30s. 6d.; Parys Copper, 17s. 6d. to 20s.; East Crebor, 25s. 6d. to 27s. 6d.; Van, 22 to 23; Great Laxey, 18 to 19; Roman Gravel, 11½ to 12; South Darren, 2½ to 3; Tankerville, 5 to 5½; Herodfoot, 2½ to 3; Leadhills, 3½ to 4½; West Asheton, 2½ to 2¾; Pateley Bridge, 15s. to 20s.; West Pateley Bridge, 2½ to 2¾; Grogwinion, 3½ to 3¾; Cape Copper, 32 to 34; Don Pedro, 15s. to 20s.; Panullicio Copper, 4½ to 5; Richmond, 9½ to 9¾; Ruby 3½ to 4; Santa Barbara, 2 to 2½; Frontino, 2½ to 3.

MR. WILLIAM H. H. WATSON, DEALER IN RAILWAY STOCKS AND MINING SHARES at net market prices of the day.

WANTED TO PURCHASE—100 Wheal Crebors, 10 D'Eresby Mountain, 20 South Darren, 10 Herodfoot. State Lowest Price.

Address: W. H. H. WATSON, 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, E.C.

THE WEEK.

SATURDAY, NOV. 22.—A marked recovery was shown in Erie and other American stocks. Although the price of Erie shares came lower from America than the previous day, it was understood that the panic in New York was over, and speculators made haste here to close their "bear" accounts. The dealers would hardly sell at all, except at the extreme prices. Erie Second Preferreds were at 85 to 89, and Atlantic 1st Mortgage from 51 to 53. Philadelphia and Reading bonds and shares closed 1*l.* higher. Home railways shared in the recovery, though at the opening they were particularly dull. Brighton, A., fluctuated between 131½ and 133½.

MONDAY.—American stocks recovered further. Erie shares were done at 84½, and the Second Mortgage at 89½. Atlantic and Great Western First Mortgage rose to 54, and the Second to 26. Reading and Pennsylvania shares were in strong demand, each advancing 1½*l.* Home railways again rose. In North British and Great Western there was an advance of 1½*l.* North-Eastern, Caledonian, and Midland closing 1*l.* higher. Grand Trunk securities were in strong favour, a circular speaking highly of future prospects being sent to every shareholder. The Second Preference advanced 2½*l.*, to 51, and the First Preference 1½*l.*, to 69. New Sharlstone Colliery, 5½ to 6; Royal Aquarium, 4 to 4½; Hudson Bay, 15½ to 15¾; Mercantile Bank of the River Plate, 3 to 3½; East Caradon, 2½ to 2¾.

TUESDAY.—American stocks fell heavily, and at the close prices were nearly as low as on Friday for the heavy descriptions. Erie ordinary shares being even lower; they left off no better than 83½. The Second Mortgage declined to 87. Central of New Jersey receded ¾*l.*. Reading shares declined to 35½. Home railways were firm in the morning, but many accounts being closed to avoid the contingencies of to-morrow prices fell away later in the day. Newport Abercrombie Colliery, 6½ to 7; Great Western Colliery, B, 2½ to 3; Bilson and Crump, 1 to 2. In mining shares Wheal Crebors were a strong market, and wanted at 7½. There was some demand for Tharsis, East Caradon, Rio Tinto, and Marke Valley.

WEDNESDAY.—The settlement in home railways proved the account to be a large unwieldy bull one, and contingencies ruled strong in consequence. In some cases stocks were sold to avoid onerous rates, leading to a general depreciation in prices. Most contingencies were ¾ to ¾; in some cases ¾ had to be paid. Sheffield, A., fell 2½; Berwick and North British, 1½; York, A., 1½; and Dover, A., 1½. At one time Brighton, A., was selling at 134, but only closed at 133 for new account. Great Western touched 114, and then fell off to 112½; half per cent. was paid here for continuing. A marked recovery was shown in American stocks. During hours yesterday Erie shares closed at 85½; but outside, late in the evening, were selling at 88. They left off to-day 83½ to 83. The Second Mortgage, easy to buy yesterday at 87, rose to 89.

THURSDAY.—During the end of November account, in Home railways the greatest rise has been in North British, which were continued yesterday at 84½, and last time at only 75½. In Brighton, A., the advance has been from 130½ to 133½. Erie were carried over at 83½, the last time it was 84½, but in the same account Reading shares have advanced from 38 to 39. American stocks were

again very strong. Erie shares rose to 84½, and the 2nd mortgage to 90, Atlantic and Great Western 1st Mortgage being 55, and the 2nd 26.

FRIDAY (Opening).—Home railways continue in the same lifeless condition they have been for the last few days, and are mostly lower. York, A., and North British are ½ down. Grand Trunk securities continue to be realised, and most of the issues are flat this morning. The 1st Preference is only 68, or 1½ down, and the 2nd but 51, also 1½ lower; the 3rds are 27. Great Western Canada fairly steady, and quoted 11½ to 11¾. Egyptian Bonds are strong, the Preference is over 78, and the Unified is up to 50½. Erie shares are 40½ to 41, and the 2nd Mortgage 89½ to 90, Atlantic 1st Mortgage being 55, and the 2nd 26. Mining shares continue strong. South Darren are quoted 2½ to 3½; it is understood that a large sale of lead has been made here at as high a price as 17*l.* per ton. Canada Gold, 1½ to 1¾; Frongoch, 3 to 3½; Panullicio, 4½ to 4¾; Rio Tinto, 6½ to 7; Ruby, 3½ to 4; Frontino, 2½ to 2¾. Reading shares are up to 3½. The delivery of stock, and the claiming of cheques for differences, engages so much attention that most of the markets are rather neglected, the exception being Egyptian Unified, which is active, and up to 50½. Home railways are mostly lower. Brighton, A., can be got at 133, and Dover, A., 120½. Erie shares are now 41½. Business has been done in Devon Consols at 5½, and in West Chiverton at 3. Tin shares are brisk and higher. Great Eastern, 80 to 80½; North British, 82 to 82½; Royal Aquarium, 4½ to 4¾. Grand Trunks are steadier and better. East Caradon, 3 to 3½; Leadhills, 3½ to 4½. Four weeks'—Home railways rallied towards the close, finishing above the worst, but still showing a decline on the day. York, A., fell to 120½. Metropolitan, after being offered at 122, rose to 122½. Grand Trunk First, 68½ to 69; Second, 51½ to 51¾. Erie shares rose to 84½, and the Second Mortgage to 90½. Pennsylvania shares, 51½ to 51¾; Reading shares, 37½ to 38. Atlantic 1st Mortgage declined to 54, the second being 25½ to 26. Egyptian Unified, 50½ to 50¾. West Chiverton, 3 to 3½. Wheal Crebor, 7½ to 8½; a dividend is looked for here. Parys Copper, ¾ to 1; Newport Abercrombie Colliery, 6½ to 7½; Elbow Vale, 8½ to 9½; New Sharlstone Colliery, 5½ to 6½; Cardiff and Swansea, 1¾ to 2¼; Chapel House, 1¾ to 2½.

FERDINAND R. KIRK.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, Nov. 21: Produce eleven days (first division of November), 10,250 oits. = 3971*l.*; yield, 6 oits. per ton.

Telegram, dated Rio de Janeiro, Nov. 23: Profit for October, 5400*l.* D.O.M.—Captain Vivian, Oct. 25: Mine and Drainage: Since my last several of the new 2½ inch bolts, just arrived from England, have been put in the 60 ft. wheel, also two keys more around the old axle, it will take a short stop or two more to complete the job. I am pleased to state that the wheel is working well, and forking the water very fast. In consequence of the water being in for the above reason, very little has been done towards the bottom of the mine; however, I hope soon to be able to inform you that operations are being carried on here rapidly, and without the slightest interruption.—Bryant's: No change to note in the new lode discovered. At Bryant's level we continue to carry on operations by continuing the 50 east upon the rise of the lode, we have again discovered a fine branch of mineral, which is now being driven, upon the 50 east, and promises to yield good stopping ground. He then goes on to explain that this has occurred at 40 ft. from the engine-shaft, and that, as above, at 85 ft. from the same shaft, in the 40 fms., a winze recently commenced has struck ore; and observes—We may safely conclude that the section of ground thus indicated is productive, and will in due course become available for advantageous extraction.

EBERHARDT AND AURORA.—F. Drake: Progress report for week ending Nov. 1.—Eberhardt and Aurora Tunnel: Distance run to Oct. 25, 4422 ft.; run for week ending Nov. 1, 57 ft.; run for month of October, 228 feet; distance run to Nov. 1, 4579 ft.—Remarks: Everything is progressing well. The character of the ground has not materially changed since last reported. I feel very safe in saying that we have passed through the shale, as we have not seen any for the last 150 ft. of running. I am making preparations for our winter run, and trusting that everything will be satisfactory by so doing.

BLUE TENT.—G. S. Powers, Nov. 1: We set off our large blast with 870 kegs of powder, and got very satisfactory results. The repairs on Blue Tent camp have been completed. We are working at repairs and other necessary matters at South Yuba and Blue Lead claims.

PLACERVILLE.—I. Thomas, Nov. 4: During the past two weeks the winze from the fourth level has been sunk 9 ft., making a total depth of 58 ft. The cross-cut to connect with the second level has been driven 10 ft., making a total length of 20 ft. We are repairing main shaft.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, 848,000, from 721 tons of ore. Refinery, 845,000.—R. Rickard, Nov. 5: Since my last, operations both in the mine and smelting have been carried on with usual regularity. The cross-cut has been advanced only 3 ft., the men have been occupied in cutting down the drift; the present end is in favourable ground. The 200 westerly drift has been advanced 8 ft.; the present end is in hard limestone. The drift from the winze below the 200 level has been advanced a total distance of 30 ft. in good ore; connection is now made between this place and the cave above the 400, which facilitates the working of the ore body. Stopping has begun, and it is opening out very well. The 400 quartile drift has been extended 38 ft.; the ground in the present end is very favourable for drifting. The 400 main west drift has been extended 16 ft. without any material change to mention. The same level north from cross-cut has been drilled 12 ft., the back of the drift in ore. The same level south from cross-cut has been extended 10 ft.; the present end is in limestone, with stones of galena. The winze below the 600 from No. 13 chamber is down 25 ft.; the bottom is in broken ground, with some good ore. No 2 winze sinking below the 600 from north fissure drift has been sunk 5 ft.; the present bottom looks very favourable for ore. The 800 west drift has been advanced 2 ft.; the ground is very hard. The 900 west drift has been advanced 16 ft. without any change to mention in the ground. There is no change in the winze sinking below the 900; it is now down a total depth of 23 ft. The ore chambers are opening out better, and are much improved since last week. The furnaces are in good working order, and smelting large quantities of ore. The machinery, both in the mine and the smelting works, is in good working order.

COLOMBIAN HYDRAULIC.—W. S. Welton, Oct. 19: Profit and loss for the month of September: Returns, \$2044.25; cost (including 10240 spent on the new opening), \$1927.30; profit, \$116.95.—Malabar: Run No. 62, from Sept. 20 to Oct. 18, 29 days, during which washing was carried on for 389½ hours, has produced from the cleaning up of the upper portion of the sluice 8741.85. The gravel appears to be about the same as during last run, but slightly softer. Very severe rains caused much damage to the ditch, a large slide took place at Pava, and 100 ft. of flumes had to be put in. The time lost in repairing the ditch reduced considerably the amount of returns. The boulders in front are now to a great extent uncovered; they appear to be embedded in a blue sand-streak, under which a stratum of rich coarse gravel is dipping south. Probably when we bottom this coarse gravel we shall find the bed-rock.—Malabar: Run No. 29, from Sept. 13 to Oct. 16, 34 days, during which washing was carried on for 387 hours, has produced 8983.35, against which \$932 were obtained from the furnaces. One corner of the furnace has become hard, and this prevented much dirt from being run. The hard piece is dying out again, and will not have much effect on the present run. The gravel appears to be improving in a north-east direction, or towards the hacienda, and away from the former banks. We shall soon cut through the ridge and reach the Chimina Quebrada, which has gravel on the other side.

SENTEIN.—Nov. 24: The managers report as follows: There is no difference in the value of our stopes and ends at the mine. We have broken this week 180 tons of silver-lead and blende ore, and brought down to the floors 183 tons. We have dressed 27½ tons of the No. 1, and 1 ton of No. 2 silver-lead, and 40 tons of blende. The 45 tons of No. 2 lead has all been sent to Bordeaux, and we have commenced to dispatch another 100 tons of No. 1 lead to St. Giron, which we expect to complete in about one week from now. The machinery is all in good working order, and as fast as circumstances will admit we are making preparations for increasing our dressing appliances, and consequently a large quantity of dressed ore.

ISABELLE (Gold and Silver).—Foreman's report for October: Total distance from monument to face of tunnel, 1243 feet. Advance for the month 225 feet. Our rock for the month has been medium, good drilling and blasting; but the last three days we have had the hardest rock since commencing the tunnel. We are now meeting with considerable water in roof of tunnel, and have laboured under a good many disadvantages—short-handed and new men. I shall be obliged to shut down on Nov. 1 (to-morrow morning), to put in air-pipe and do some overhauling on compressors; but think I shall make it all up during the month. When the air-pipes are in our delay will be less in going in after blasting, and also a more desirable place for men to work in. The tunnel is all finished as far as we have gone. We have put in but two hand drill-holes since starting up machinery. I cannot close my report without requesting you to compare notes with different tunnels run and being run, as to cost, progress, number of machines, &c., in California and Nevada, where they encounter the same, or nearly the same, character of materials as we are passing through. In my experience of sixteen years in running tunnels in California I have never seen as tough mean blasting rock as we have developed in this tunnel. Everything about the works is in good shape, and the prospects for a good run the coming month favourable.

FATAL ACCIDENT TO MR. T. E. W. THOMAS.—It is with deep regret we have to report the death of the above-named gentleman, which took place on Tuesday last. While on the platform of the Barnsbury Station (either through sudden giddiness, or attempting to cross from one platform to another) the engine of an express train going City-wards caught the deceased, and inflicted injuries immediately fatal. The inquest was held yesterday, when a verdict was returned in accordance with the above facts.

The creditors of the Llynvi Tondy and Ogmore Coal and Iron Company (Limited) are to send in their claims by Dec. 31.

HOLLOWAY'S OINTMENT AND PILLS will be found the best friend to persons afflicted with ulcerations, bad legs, sores, abscesses, fistulas, and other painful and complicated complaints. Printed and very plain directions for the application of the ointment are wrapped round each pot. Holloway's alternative method of being taken throughout the progress of the cure, to maintain the blood in a state of perfect purity, and to prevent the health of the whole body being jeopardised by the local ailments; bad legs, old age's great grievances, are thus readily cured, without confining the patient to bed, or withdrawing from him the nutritious diet and generous support so imperatively demanded when weakening diseases attack advanced years or constitutions evincing premature decrepitude.

Mining Correspondence.

BRITISH MINES.

ABERLYN.—John Roberts, N. v. 26: There is no change in the valley cross-cut; there are nice patches of blende, and spots of lead. The stope on the great lode at No. 2 are not looking so well in the upper part, but on the footwall and in the lower parts they are still very well for blende. The lode in the stope on the shale lode is cut out with a slide running almost horizontally. I expect, however, in a day or two to get through this. We have not yet holed the rise with the winze. There is a very hard bar of ground that has intercepted the line of sinking and rising that has impeded our progress. The dressing is going on steadily, and the machinery works well indeed.

BETWYS-Y-COED.—O. J. Sims, Nov. 27: We have attached the rods to the engine connecting the western shaft, have forked the water, and have started both the engine and the 30. The 30 west is set for the month at 61. per fathom, to four men; the lode is worth 25 cwt. of lead ore per fathom. The 30 east is set also for the remainder of the month, ending Dec. 6, at 54. per fathom, to four men; the lode is worth 1 ton of lead ore per fathom, and is looking very promising for speedy improvement. There is a large quantity of water coming from this end, and as the water is decreasing in the sink in the bottom of the 20 there is every reason to believe that we are nearing the rich ore seen in the bottom of the said sink. There is no particular change to note in the stope in the eastern part of the mine. I hope to get the deep adit end cleared so as to commence driving on Monday next.

BLUE HILLS.—S. Bennetts, P. Vian, Nov. 22: The lode in the 42, east and west of the Blue Burrow shaft, is somewhat disordered by means of the junction of one of the perpendicular lodes, and not producing much tin stuff. In the 30 east end it is improved, and is now worth 151. to 161. per fathom near a small cross-course. The stope in the bottom of the level, west of the shaft, is worth 71. per fathom. The tribute pitches are without much change.

BODDIDRIS.—H. Hotchkiss, Nov. 26: Maes-y-Pwll Lode: The levels both east and west have further improved for lead this week. A full report next week.

BWLCH UNITED.—N. Bray, Oct. 22: We are getting very good leadstuff from the stope in the 90 fm. level, and I intend to increase the number of hands in this bargain. The lode in the 70 going east continues very large, and producing ore, but not in paying quantities. We have cleared the 80 fm. level east, and just resumed driving in a fine-looking lode, with every indication of becoming productive. We have been for several days drawing away stuff from the 100 or bottom level, and, consequently, very little alteration has taken place as to prospects at that point. The weather has set in rather severe, but not sufficient to interfere with our working.

CAMBRIAN MINES.—T. Glanville, Nov. 22: ESCAIR-FRAITH: Eastern Shaft: The part of the lode sinking below the 86 yard level will yield 2 tons of copper ore per yard. The lode in the 86 yard level east is yielding 3 tons of copper ore per yard. The stope in the back of the 86 yard level are producing 3 tons of copper ore per yard. The stope in the back of the 70 yard level east are also producing 3 tons of copper ore per yard.

CLEMENTINA.—John Roberts, W. Sandoe, Nov. 26: The north end in bottom of the engine-shaft is looking very kindly indeed, and worth 12 cwt. of lead per fathom; set to four men, at 51. per fathom for 4 fms. The south end in this level is entering into a change of ground, and we expect with a little further advance to get into the run of ore ground that was worked in the upper levels; this is set to two men, at 101. per fathom. The stope in the 25 are rather pinched up for the present, but we are extending them eastward to get at the bunch of lead left by the former company. The distance is simply a few feet; set to four men, at 51. per fathom. The end driving west in the 25 is improving a little, and we have every confidence that it will improve and be a successful trial. At the roadside shaft the water is very quick; and, owing to our having to clear the mine of stuff, we had to use a great deal of extra water from the reservoir, which, owing to the protracted dry weather, the water has run so short that we have been obliged to disengage the pump until we get rain. The shaft is now set ready to cut to the bottom, and to lodge at the foot for bearers and clismen for fixing the top lift. We are getting all the leadstuff at surface ready for crushing as soon as we get rain.

COMBIMARTIN.—J. Comer, Nov. 27: There is nothing new to report from our underground operations this week. The winze is now down 3½ fms. below the 12, and still dry; the lode is from 3 to 4 ft. wide, producing good seams of lead, and looking likely to improve. In the 12, driving south-east of winze, the lode is small, and producing lead and blende, saving work. The stope in the back of the 12 is not looking quite so well as when last reported. It being a little disordered. The lode in the top of the shaft, containing fine lead, and some quartz, killas, and prany joints, intermixed with lead, blende, and munda, a very promising lode indeed. In the adit cross-cut since we passed through the dropper referred to last week we are frequently meeting with small seams of quartz, spotted with lead and munda.

CROOK BURN.—W. Vipond, Nov. 22: The shaft is down close on 10 fms., and is now in hazle. The limestone gone through is about 4 ft. thick. The men have finished the walling to the top, put in the partition, ladder, &c., and are completing the thing down as far as sunk. I think the water continues much the same.

DENBIGHSHIRE CONSOLIDATED.—R. Prince, A. Francis, Nov. 27: I reported a great change in the 112 east main lode, and since that we have drawn to surface some good lead ore therefrom, and to day the lode looks better than I have ever seen it before, and likely to last and still further open up. The tributary pitch in the back of this level has yielded a very fair quantity of lead ore. The 66 is opening up as we expected, and progress in the north cross-cut has been more satisfactory.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, Nov. 26: There is no change in the cross-cut as yet. We are going over the surveyings again to be very sure as to our exact whereabouts, and you a copy of the new plan in a few days, so that you may also see our position.

D'ERESBY MOUNTAIN.—J. Roberts, Wm. Sandoe, Nov. 26: In No. 5 in the sump we have cleared up all the stuff to the bottom, and have commenced sinking below the deepest point in the mine; the lode is ore, from 3 to 4 yards wide, the main lead-bearing part being on the hanging side, and as we find as yet no shale we think that the shale is replaced by the lode which bears the greatest portion of the lead, and if this is so it bears out the opinion that we expressed a year ago, that the shale would be replaced by a strong lead lode in depth. We find the lode in the very bottom of the sump to be just exactly as was reported by the moderate of the old men; the lode is worth about 1½ ton of lead per cubic fathom—that is to say the part we are sinking on. The entire width of the lode is fully 3 fms. From the bottom of the level we have made a hole through to the large chamber below, and we are now squaring it down to make room for fixing tackle for drawing stuff from the stope, by which means we shall be able to get it away without interruption to the sinking the sump; in this place the lode is of much the same value as in the sump. The stope in No. 2 since we have taken away a piece of dead ground to make advantage for working has improved. We have a large quantity of leadstuff accumulating here, as we have been short of water for crushing we have supplied the crusher from No. 5, but as soon as we get rain we shall do all that we possibly can to make up the loss of time. We are doing all that we can in the way of dressing, and nothing but scarcity of water prevents us from making up the sampling at the time we promised.

DERWENT.—John Morpeth, Nov. 26: I beg to hand you the accompanying list of bargains let here last Saturday, with estimate of ore, &c.—Jeffrie's Shaft, Middle Vein: The 95, 85 fms. east of this shaft, yields 16 cwt. of ore per cubic fathom, and the vein is 8 ft. wide. The stope in the back are yielding 11 and 14 cwt. of ore respectively per fathom; the vein in both stops is 5 ft. wide. The flats are producing 15 cwt. of ore per fathom. In the 104, the 93, west of shaft, the five stops are yielding 11, 10, 22, 13, and 13 cwt. of ore per fathom respectively, and the average width of the vein is about 4 ft.—Sun Vein: A month ago in the last setting report, hopes of an improvement in the 70, on this vein east of shaft, were held out, and I am glad our expectations are being verified. The vein is gradually improving, and at present 3 ft. wide, and worth at least 9 cwt. of ore per fathom.—Westgarth's Shaft, Middle Vein: Over the 93, on this vein east of shaft, we have seven stops, whose worth respectively is 15, 17, 17, 12, 17, 25, and 22 cwt. of ore per fathom; the average width of vein is over 4 ft. The vein in the back of the shaft, the 93, west of shaft, the 93, east of shaft, the vein is 5 ft. wide, and worth 23 cwt. of ore per cubic fathom. The 74, west of shaft, continues by the side of the vein in shale, and is almost without change. The average value of our ore yielding workings is 16 cwt. per fathom, and the aggregate yield is 14 tons 6 cwt. We are busy this week making preparations to start a bold cross-cut by the boring machine from Westgarth's shaft to cut the north vein at the bottom of the great limestone, to do which we have selected a few men of energy, and we hope to push the driving very vigorously, and to go across rapidly. We have a little snow every day, and still drawing and dressing are going on without much interruption.

DUBBY SYKE.—W. Vipond, Nov. 22: There is no material change in the shaft. The vein or branch appears rather contracted at present, with more stoney matter in the barytes. The water continues about as it has been. Mr. Tallentire expects to finish his contract about Monday, Dec. 1, when the number of men will be increased.

EAST CARADON.—James Vallow, Nov. 26: During the past month we have changed the pitwork in the winze, replacing the same by larger work, and fixed plunger pole, &c. The winze has been sunk 4 ft., and the lode is 18 in. wide, chiefly peach and munda, with occasional good stones of ore. Having got over the difficulty with the water, we hope now to make better progress. To drive the cross-cut south 1 fm. stent, by two men, at 61.; it was driven 1 fm. 2 ft. 6 in. The tribute pitches are without change.

EAST CHIVERTON.—R. Southey, Nov. 26: The 90 cross-cut is driven south of shaft about 3 fms. In ground very congenial for the production of mineral, and judging from the present appearance, by the end of next month we shall intersect the lode. In the 74 west we have set men to put a rise in order to stop the back, from which I hope to get some returns. The 74 west is looking exceedingly kindly—in fact, better than I have seen it for some time past. We shall resume the driving of this end immediately, after the stoppage, get cut of the back of the level. At the 64 better progress is also making in the south cross-cut, and I have every reason to believe the hard bar of ground will be through shortly, when the south lode will be very quickly intersected, which I have every reason to hope will prove productive.

EAST ROMAN GRAVELS.—Arthur Waters, Nov. 27: The 97 cross-cut, south-west of boundary shaft, has passed into a portion of the lode which makes on the footwall, but the large sparry ore lode seen in the 86 is still in front of the present end of the cross-cut. The men bored a hole to-day which tapped a considerable stream of water, and I think it must have just reached the wall of the said hanging-wall or main division of the lode. No doubt we shall be able to speak fully on this point next week. The 86, south of shaft, is now into a wide sparry lode, which is yielding good stones of ore, and looks like improving shortly. The 75 south, now about 70 fms. from shaft, is opening out a strong ore lode, and worth 25 cwt. per fathom. There is a lode for several fathoms in length behind the said end, which is yielding 30 cwt. of lead per fathom. I expect this bunch will be reached in the 86 in a few fathoms further driving. The tribute pitches are looking fairly well. The whole of the last sale of lead will be off this week, and the blende by Monday next. Weather severe.

EAST YAN.—H. Williams, Nov. 26: I have just returned from East Van. The level upon the cross-course, south-west from engine-shaft, has been driven 12 fms. There is a slight change for the better in the ground at the present end, but no lead as yet.

EAST WHEEL LOVELL.—R. Querrell, Nov. 26: There is very little alteration in the mine since my last report. The lode in Severan shaft fully main-

tains its size and promising appearance. We are fixing the water-wheel, and shall get it to work very shortly.

WATON COPPER.—George Rowe, George Rowe, jun., Nov. 22: The lode in the 117 east is over 6 ft. wide, producing capel, spar, and sulphur munda, mixed with ore—altogether of a very kindly appearance. The lode in the 105 east is yielding 4 tons of arsenical munda, mixed with ore. The lode in the stope in the bottom of the 105 fm. level, east of winze, is worth 91. per fathom. The lode in the stope in the bottom of said level, west of said winze, is worth 121. per fathom. The lode in the stope in the back of the 105 east is worth 117. per fathom. The lode in the stope in the bottom of the 95 east is worth 41. per fathom. All other points are without change.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, Nov. 25: The new lode cut in the 102 south is improving on being opened east; it has a very kindly appearance, and now worth from 51. to 81. per fathom, and likely further to improve. It is letting out a good deal of water, and in very favourable ground. The ground in the 102 east, on north lode, is easier, but no change of importance in the lode. In the 90 west, on north lode, the ground is a little better driving by the side of the lode. The 90 east, on south lode, is producing a little ore, but not of much value. We have put on six men on the winze at the bottom of the 90, so as to get it through to the 102 for ventilation. No change in the cross-cuts or any other drive since our last report. The stope, on the whole, are looking just as usual. We are busy preparing ore for the next sampling, which will be about the usual quantity; particulars next week.

GLENROY.—R. Rowe, Nov. 24: We have an improving lode in both ends at the bottom level; in the north end the lode is 3 ft. wide, with a good deal of quartz mixed with blende, and in the south end the lode is the full width of the level, composed of strong ore-bearing quartz and some blende; from the appearance of both ends there is good reason to expect further, and I hope substantial improvements.

GORSIEDD AND MERLLYN CONSOLS.—W. Edwards, Nov. 27: The ground in the 70 east continues hard, and the lode is nearly 2 ft. wide, with more lead coming in the roof of the level to-day. The men have driven nearly 6 yards this last month. In the 60 east the sump reported upon in my last is complete, so we are clearing up the floor of the level so that we can commence stoping, and I think we shall have a good produce therefrom; the beds continue to dip fast in the 90 east, so that we cannot be far from the soft ground proved in the level above.—Tributers' Bargains: In No. 1 roof of the 70 east the produce is about 1 ton of lead to the fathom; No. 2, in the bottom of the 70 west, the produce will be over 1 ton per fathom. We have sent 14 tons lead from the floors to-day. **GRAND DUCHES.**—J. Davis, Nov. 25: Since my report of Nov. 11 the mine has been inspected by Capt. Thomas Harvey, for many years agent at the Vale of Towy Mines, which property adjoins us on the west. You will be pleased to hear that this gentleman fully confirms my report of Nov. 11, and that he has a very high opinion of our prospects on the Bonville side of the hill. We have commenced the new adit on the Bonville section, and hope to have it under cover and in firm ground in a week or nine days; the rock is deeply covered here, but we have been fortunate enough to fix the mouth of the adit upon the back of the lode, which in the soft ground we are in at present is composed of flooskan, gossan, manganese, and small boulders of lead ore; in fact, the lode here is exactly of the same character at surface as it is at the top of the hill where we have had the good discovery. We are pushing on hard to get under cover, and hope to have some further good news shortly.

GREAT HOLWAY.—Nov. 27: Garden Shaft: The distance to the end of the 55 yard level, driving (No. 6) from Garden shaft, is 38 yards 2 ft., and the fore-breast has been showing recently some lead and blende, and promises well. The sinking of No. 1 is now down 49 ft. from the bottom of the 55 yard level. In stoping of No. 5, in the roof of the 55 yard level, the present produce is 1 ton of blende and 1½ ton of lead. The men have broken from this end 6 tons of blende ready to go to surface.—Roskell's shaft: The men are now enlarging the shaft at the very bottom, so that they may proceed with the sinking as soon as possible. The estimated number of feet cut between Roskell's level and engine-shaft is 50.

GREAT LAXEY.—W. H. Rowe, Nov. 26: There is nothing new to report of the sinking of Welsh shaft below the 247, the greater part of the lode in which is on the footwall side, in order to keep the shaft in line. The lode in the 247 end north gradually improves in value—now worth 181. per fathom. In the 235 end, south of engine-shaft, the lode has almost suddenly assumed a much more hopeful appearance than for a long time past; it is now 5 ft. wide, chiefly composed of spar, spotted with copper, blende, and lead ore. We have been so often disappointed in this driving that I will not venture to say more than it is a very promising looking lode, and the end now immediately under where the lode was worked for ore in the 200 south. The 235 end, north of Welsh shaft, has improved, and the lode become more regular—now worth 201. per fathom. A stope above this level has also improved—worth 401. per fathom. The 220 end is worth 131. per fathom, and the average value of stope in roof 171. per fathom. The 210 end is driving at present on a part of the lode which is just now poor. The stope in sole is worth 201. per fathom, and the stope in sole of 200 is worth 301. per fathom, and those in roof 161. per fathom.—Dumbell's: The rise in roof of 215 north has fallen off in value—now worth 301. per fathom. The lode in the 200 end north is irregular, and just now become barren. The 185 end shows a little ore, but not at present to value. The winze in sole is worth 301. per fm., and stope in roof 201. per fathom. The 170 end is worth 121. per fathom. Before proceeding further with the 140 end north we intend to fully prove by cross-cutting any parallel branches; but the late accident to the air-compressor has delayed both this and the driving of the 125 end. In the latter place the lode at present worth 151. per fathom. The 110 end north met with another slide, disordering the lode for a short distance, but now evidently recovering itself. We are now cutting ground prior to laying open the ore ground in sole of this level.—Middle Ground: We have resumed the rising above the 110, which shows a strong healthy lode, yielding fair average stuff, and the driving south from top of rise continues to yield ore.—South Ground: The branch in the 80 cross-cut is not yet intersected. The rise in roof of 165 south is worth 161. per fathom; a winze in sole, 351. per fathom; a stope, 121.; and one in roof of 100 fm. level south 501. per fathom.

GREAT RETALLACK.—T. Harris, Nov. 27: In sinking the shaft our men have not much this week, from having met with a run of hard rock, which has greatly impeded their progress; the rock is like lodestone, of quartz and peach, spotted throughout with munda, and the joints tinged with blende. I am hoping we have got through this hard run, the ground being now in burnt-up looking killas, and very jointy, so I hope the men will be able to make better progress.

GREEN HURTH.—Wm. Vipond, Nov. 21: Swan's Shaft: This is unchanged, still in plate, and no appreciable difference with the water.—Vipond's Sump: The 30 south from this continues fully worth 9 tons of ore per fathom, with equally as good ore going down in the bottom and setting in with another slide, really wonderful to see the ore going on as it is with a plate cheek on the east side.—North End of the 30: This is looking better for ore, although I still value it at 1 ton per fathom; it is also getting easier for driving.—Robinson's Sump: This is still in the same confused ground, with some ore in it, but not to value; it is now down 11 fathoms. By the end of the month it will be down to the random of the 30, when the six men in this will commence to drive to meet the 30 coming north, as the 30 north is getting easier, and the bottom of Robinson's sump easy also. It is likely we shall have better ground for driving between the two, and that there will soon be a thorough communication. We shall finish the delivery of the third wagon of ore to-morrow.

GRIFFIN.—Chas. Kneebone, Nov. 26: Saturday last being our setting-day, the following contracts were let:—A level to drive east from the engine-shaft at the 15, by six men, to intersect the Griffin lode, 2 fms. stent, or cut the lode at 71. 10s. per fm., at present in quartzite. The 10 to drive north, by two men, for the month, at 41. 10s. per fathom; worth 30 cwt. of lead ore per fathom for the part carried, with good leadstuff in the western or footwall side. The main adit level to drive north, by two men, at 41. 10s. per fathom; the ground is without change, producing occasional stones of lead, but not to value. The Owen level is without change, and at 81. per fathom. The No. 1 stope, north of shaft, above the 10 fm. level, by four men, at 30s. per fathom; worth 12 cwt. of lead ore per fathom. The No. 2 stope above the 10, south of shaft, by two men, at 30s. per fathom; worth 1 ton of lead ore per fathom. The intermediate stope on the east and west lode has not yet been resumed, but will be so soon as the stuff is clear, at 35s. per fathom; worth 12 cwt. of lead per fathom. All the stuff in the Griffin Mine to tram and wheel below ground, and to fill and land to surface, by two men, at 81. per month, the takers to pay for candles and tools, and keep the mine clear of stuff as directed. We shall let the rise above the main adit to two men to cut the timber to the sawmill to be cut for the jiggers, and everything shall be pushed on for our next sampling. I have had an offer to work the blende lode at a tribute of 10s. in 14.

HERODSFOT.—P. Tenby, Nov. 27: No lode has been taken down in the shaft sinking below the 205, or in bottom end driving north this week, owing to our not being able to draw the stuff. Since the dry weather set in our surface water has very much fallen off. The lode met with in cutting down the shaft over the 190 has improved, and is now worth for the length of the shaft—10 ft.—25 cwt. of lead per fathom. No. 1 stope over the 205 is worth 20 cwt. of lead per fathom. No. 2 stope is worth fully 20 cwt. of lead per fathom. No. 3 stope is worth 15 cwt. of lead per fathom. No. 4 stope is worth 12 cwt. of lead per fathom. The lode in the 190, driving north, on the western part, has improved to-day, become more soft and ore, worth from 5 to 6 cwt. of ore per fathom, with every indication of improving as we are in towards the new shaft, which is about 4 fms. before the end. No. 1 stope, over the 190, is worth 15 cwt. of ore per fathom. No. 2 stope is worth 13 cwt. of ore per fathom. During the past week we have opened a branch or lode at the 70, near the engine-shaft, which I believe will be found to be the main part of the lode going up, which has been lost for years. It is fully 18 in. wide, and worth 10 cwt. of very rich ore per fathom, and is looking promising to open up a fresh course of ore. Very little has been done in this part of the mine above the 80, where the great course of ore we first met with, which has lasted without interruption to the 205. This lode is standing in whole ground from the 80 to surface.

HINGSTON DOWN.—T. Richards, Nov. 25: I beg to inform you that there is no material change in the drives east and west of the adit level south. The lode is of the same promising character, producing a little grey and red oxide, green carbonate, and rich stones of yellow copper ore.

LADYWELL.—Arthur Waters, Nov. 27: The adit level going south of new shaft continues to go forth into a good-looking section of country rock, and the lode is yielding some beautiful solid lumps of lead ore. At present the underlie is greater than we like to see, still there is a prospect of meeting with softer ground shortly, when the lode will most likely resume its usual nearly perpendicular position. The 20 above adit, also going south of shaft, is without change of note for some weeks past. I sent you a full report this week for the meeting on Dec. 10 next.

LLANRWST.—R. Knapp, Nov. 27: So far as we have yet taken down the lode in the adit it appears to be about the same value as when reported last week—2½ tons per fathom; it will take almost another week to finish taking it down. The 10, above adit, is still producing 2 tons per fathom. In the shallow adit the ground is favourable for progress, and I hope soon to be able to report a good lode here.

MELLANEAR.—John Gilbert, Nov. 26: The lode in the rise in the back of the 20 fm. level, west of Gundry's shaft, is 2 ft. wide, and yielding some saving work for copper ore and blende. The lode in the 40, west of shaft, is 3 ft. wide, and yielding 1 ton of ore per fathom, and some rich stones of lead. We have cut through the south-east part of the lode in the 50 cross-cut, west of Gundry's shaft. It is 2 ft. wide, producing some good stones of copper ore. The men are now driving west on its course, and in about 5 fathoms this part will form an intersection with the main lode. The lode in the 60, west of shaft, driving east on the south-east part, is 2½ ft. wide, and yielding 1½ ton of ore per fathom. The lode in the rise in back of this level is 2 ft. wide, and yielding 1 ton of ore per fathom. The lode in the 70, west of shaft, is 3 ft. wide, and yielding 2½ tons

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of ore per fathom. The lode in the rise in back of this level is 3 ft. wide, and yielding 2 tons per fathom. The lode in the 70, west of shaft, driving east, on the south-east, is 4 ft. wide, and yielding 1½ ton of ore per fathom. The lode in the 80, west of shaft, is 5 ft. wide, and improved to 4 tons of ore per fathom. The winze in the bottom of this level is also worth 4 tons of ore per fathom. The lode in the 90, west of shaft, is 4 ft. wide, and yielding 1 ton of ore per fathom. The winze in the bottom of the 90, east of shaft, is yielding 3 tons of ore per fathom. The lode in the 100, west of shaft, is 4 ft. wide, and yielding 3 tons of ore per fathom, and still letting out a very large quantity of water. The lode in the 100, east of shaft, is 4 ft. wide, and yielding 3½ tons of ore per fathom. There is no change in the ground in Gundry's shaft; it is now very nearly down to the required depth for a 110 fathom level, which we purpose beginning to drive next week. We shall also cut a pit at the same time.—Skip Shaft: There is nothing new in the 70 cross-cut, south of this shaft; the cross-course is still large, and producing stones of munda, and letting out a little water, and the ground is easy for driving. The lode in the 100, west of shaft, is 3 ft. wide, producing good stones of copper ore, and looking promising to soon improve. The stopes throughout the mine are looking very well.

MINERAL CORPORATION OF GREAT BRITAIN.—William Bennetts, Nov. 27: HAFNA, HIGH HAFNA, and GREAT D'ERESBY. We started the new large crusher yesterday evening, and I am very glad to say that it works admirably. We are now in full swing crushing and dressing our ores. No change of importance underground at the higher mines. At Great D'Erresby we are making fair progress in driving our deep adits, considering the hardness of the ground; I am glad to say, however, that, as I anticipated, as we progress into the mountain the ground is becoming more general, and we have to-day broken some of the best lead that I have seen since we commenced the cross-cut to the lode. These indications look well for the lode when intersected. During the week our machine drills have advanced the deep adit 2 fms. 4 ft.

MONYDD GORDDU.—J. G. Green, Nov. 21: I am glad to say the 24 west is looking well to-day. The sole has a course of ore 3 ft. wide, which will yield 40 per cent. clean ore. The level itself is in a vugh containing splendid crystals and masses of blende, quartz, gossan, carbonate of lime, &c.—a very richly composed lode, but not so productive for lead as I would wish (say) 1½ ton per fm.

J. G. Green, Nov. 25: The 24 west, referred to in my last report, continues, and the lode is not so rich for mineral—worth 1 ton of lead and 1½ ton of blende per fathom. We are busy putting in stull over the winze in the 12, so as to be in readiness to recommence sinking at our next setting, the water being now drained. There is no alteration to notice in any of the stopes. We have a fair supply of water; but I am afraid that we shall have snow and heavy frosts, there being every appearance of such frost now.

MORFA DU.—T. Mitchell, Nov. 27: Everything here is going on in regular order, and good progress is being made in the various points of operation.

NEW BRONX P.D.—Thomas Kemp, Nov. 27: No. 3 Shaft.—North Lode. The part of the lode carried by the 121 end west of winze, is about the same as for some time past, without any change to notice, chiefly composed of killas and spar, showing a little lead ore, in ground very hard for exploration—consequently progress is very slow. The men in the stope over this level are getting on well in filling up the old workings, which work will be completed in about a week, when they will commence stopping on a lode worth from 15 to 18 cwt. of ore per cubic fathom. It will take the men in the stope under the 52, west of shaft, from a week to nine days to get this place into working order, when they will also commence stopping on a lode worth fully 1½ ton of ore per cubic fathom.

Middle Lode: The lode in the 73 end, west of No. 2 cross-cut, has a strong and masterly appearance, and for the width of level (5 ft.) is worth from 2 to 2½ tons of ore per fathom, and leaving good ore standing to the north of the driving. The lode in the 63 end, west of winze, in the intermediate level, is showing a very favourable appearance, composed of killas and spar, strongly spotted with copper and lead ores. As this level is being driven forward we may expect an improvement. Before resuming dressing operations the crusher and jiggers will require some repairs, which work shall be proceeded with at once.

NO. 12 D'ERESBY MOUNTAIN.—Nov. 27: I am pleased to tell you that the lode in the No. 2 adit is looking well, never looked so well as it does to-day. The part of the lode we are driving on is from 4 to 5 ft. wide, all of which is good saving work for the dressing-floors.

NORTH TREKREBY.—Martin George, Nov. 27: Doctor's engine-shaft is now in full course of sinking; the ground is congenial for ore, and the men making good progress. The lode in the 36, west of engine-shaft, is 5 ft. wide; it is softer, contains more friable quartz, and good stones of ore. The lode in the 24, driving west of the cross-course, is 3½ ft. wide, and worth ½ ton of copper ore per fathom. The lode in the winze, the 4 ft. wide, and yielding 1 ton of blende copper ore to save. There is no change to notice in the rise in the back of the 12, west of engine-shaft, since last reported. The lode in the shallow level driving west of cross-course is 2 ft. wide, and worth 1 ton of copper ore per fm. The lode in the stope in the bottom of the shallow level is 3½ ft. wide, and yields 1½ ton of copper ore per fathom. The pitches look just as usual.

PANDORA.—H. Nottingham, Nov. 26: Our bottom level driving south on new lode has further improved, and is now worth 15 cwt. of lead and as much blende per fathom; I think this must be a continuation or lengthening of No. 1 run southward, as we are, according to indications at the 23, still over 10 fms. from reaching the No. 2 run of ore. I consider this a very important feature, not only as adding to our returns, but also as showing the continued productiveness of the lode in depth. The other drivings and stopes are without change. I have sent out samples of 20 tons of lead and 25 tons of blende for this month's sale, both of good quality. The weather keeps comparatively dry, so that we are still obliged to keep the engine pumping.

PANTY-MWYN.—Enoch Parry, Nov. 26: The lode in the 15, driving east of Modlyn's shaft, is 9 or 10 ft. wide, very kindly in character, yielding stones of lead ore, and we believe we are near the run of lead ore being worked in the back of this level. The stope above this level, and east of Modlyn's shaft, is worth fully 3 tons per fathom. We are stopping this at 25s. per ton for lead ore, and the men earning good wages. The rise from this level to communicate with the shaft is in hard ground, so progress is slow. The lode in the sump sinking below the 15, east of Griffith's shaft, is worth from 3 to 4 tons per fathom, and when we get it open for stopping we shall raise good quantities monthly from here, and this we shall soon do, as the ground is speedy. We have considerable trouble to get the ore stuff through hand fast enough with the present arrangement of doors. There is a great deal of water in the lode in places. If we can do this we shall have 40 tons for next month's sale, say in a fortnight's time. The rich lode in the mine and the splendid lead stuff on dressing-floors speak volumes for the future of the mine. You will be pleased to learn that we are making good progress in clearing and repairing the deep adit level. We have reached Belian shaft from the mouth of the level, which is full of debris fallen from above. We shall make our level through the run, and proceed as fast as possible. We have opened into the lodge at adit level in clearing south shaft, and hope to get into the level in two or three days.

PARYS.—T. Mitchell, Nov. 27: The ground in the 90 cross-cut south is undergoing a favourable change, and from appearances we think we are near a bunch of ore. We have never seen the indications so strong for copper as at present. The 90, west of cross-cut, is without change to notice. The pitches are looking very well. Saturday next will be setting-day.

PATELEY BRIDGE.—C. Williams, Nov. 27: We have no change whatever in the mine calling for remark this week; nearly all points throughout are producing excellent ore in paying quantities, and we are using every effort to manufacture the same into pig lead with the least possible delay.

PENHALLS.—S. Bennetts, P. Vian, Nov. 22: The lode in the 70 end east is much the same as last reported, and not of much value. In opening out on one of the branches or lodes found in the 50 cross-cut north, near the supposed position of the Wheal Betsy lode, there is nothing as yet found satisfactory. In the 30 north cross-cut the lode being opened on there contains a little tin, but is small. The 48 west is worth 6s. to 7s. per fathom.

PENNANT.—Nov. 27: The stopes between the 60 and 80 are producing as for some time past. To-day we have met with some large cavities in the lode, and good lumps of lead are being obtained. The stope in the bottom of the 56 yard level, east of shaft, is turning out well—it seems to be lengthening eastward. The second stope in this level also seems to give satisfaction. The 60 is being urged forward, and looks very promising.

ROMAN GRAVELS.—Arthur Waters, Nov. 27: The new south engine-shaft is 16 fms. 2 ft. below the 110, and solar is fixed in the 125, and the men have commenced to cross-cut east to the great lode. I expect the vein will be found within about 2 fms.—i.e., just in the pit, as was the case in the level above. The 110 north has improved this week, now worth 1 ton per fathom. We expect a much better lode here soon. The 110 south is in a lode 2½ ft. wide, yielding stones of ore. No. 1 stope, in back of the 110 north, is worth 2 tons per fathom. No. 2 stope is worth 1½ ton per fathom. The 95 south is worth 1½ to 2 tons per fathom. No. 1 stope, in back of the level, south of Jack's winze, is worth 2½ tons per fathom. No. 2 stope is worth 1½ ton per fathom. No. 3 stope south 3 tons per fathom. The stope in the 95, north of new shaft, is worth 1 ton per fathom. The stope in the same level, south of Matthews' winze, is also worth 1 ton per fathom. The stope in the 95, north of Tittle's winze, is worth 2½ tons per fathom. The 80, south of Betton's winze, south of shaft, is worth 1 ton per fathom, and improving. The stope in this level, south of the above winze, is worth 1½ ton per fathom. In the 80, north of shaft, we are driving a cross-cut from the west part to the east part of the lode, there being a considerable horizon of ground between them. Both portions of the lode are profitably productive. The stope in back of the 80, north of old shaft, is producing 2 tons per fathom. The stope in the 80, south of Wilks' winze, south of new shaft, is yielding 3 tons per fathom. No. 2 stope, south of ditto, is worth 3½ tons per fathom. No. 1 stope, in back of the 80, south of Matthews' No. 2 winze, is worth 3 tons per fathom. No. 2 stope south is worth 1½ ton per fathom. The 65, south of Stokes' winze, south of new shaft, is worth 2 tons per fathom. There are four stopes in back of this level, south of said winze, worth together 10 tons per fathom. The ground over the said four stopes is whole to the 20, if not still higher than this. In the stope in back of the 50, south of old workings, the lode is worth 2 tons per fathom. The rise and stope in the 40, south of old workings, are worth (the men are rising and stopping) 1½ ton per fathom.—East Lode: The stope in back of the 80, north of Glover's winze, is worth 2 tons per fathom. We have to-day sold 25 tons of blende for 195s. 12s. 6d.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, Nov. 26: We have completed the double skip-road to the bottom of Plantation shaft, and have cleared out the 80 fm. level. The men will now be employed in sinking for skip-pit and cutting ground for trip-pit. The 80 end west in the meantime will be continued; the lode in this level is worth 12s. per fathom. The 70 end west is worth 9s. per fathom. The 60 west yields low quality tinstone. The 93, east of King's, is worth 12s. per fathom. The 80 east is worth 10s. per fathom. The 70 west is worth 7s. per fathom. The lode in the back of the 70 is disordered by the West Basset or perpendicular lode crossing it. The 50 end east is worth 7s. per fathom. The lode in the back east is worth 12s. per fathom. The 40 east yields stones of tin.

SOUTH D'ERESBY.—Wm. Bennetts, Nov. 27: The lode at the engine-shaft presents the same kindly appearance as last reported. I am pleased to say that the lode in No. 2 shaft is looking well, and is worth fully 15 cwt. of rich end per fathom.

SOUTH TOLCARNE.—W. Rich, J. Knottwell, Nov. 26: There has been nothing done in the 36 cross-cut south during the past few days as the men have been employed in putting in tramroad; this is completed, and the drive of the cross-cut south will now be urged on as fast as possible. Good progress is being made in the rise in the back of the 36, and in the winze sinking below the adit.

SOUTH WHEAL CREBBY.—John Goldsworthy, Nov. 26: The engine continues to work remarkably well, and we have had no hindrance of any kind since the directors were present at the starting of the same on the 20th inst. The draining of the mine is going on most favourably, and I hope to have the mine cleared by Monday morning (Dec. 1), when the cutting of the pit will be at once commenced.

menaced prior to sinking the engine-shaft below the 25 from surface, or about 16 fms. below the adit. The sinking of the shaft to the intersection of the lode is a point of great importance, and cannot well be over-estimated. Judging from the underlay of the lode in the 16 below adit the shaft will intersect the lode in about 16 to 18 fms. deeper, and judging from the size and fine appearance of the same in the level, combined with the fine channel of stratum, there will be a good and lasting result. On extending west about 27 fms. on the east and west lode the counter lode will be reached at the shallow depth of 16 fms.; this lode has proved highly productive, and produced about 3000s. worth of rich copper ore on reaching the junction—the two lodes combined with the cyan courses are features worthy of the greatest attention, and points which, in my opinion, will be very productive. The extension of the 16 on the counter lode north to intersect the north lode known to exist within a few fathoms of the present end is also a most important point; this lode in the adjoining mine to the east is known to be rich in copper ore, and where opened on in the back in this property has produced rich specimens of copper ore.

TANKEVILLE.—Arthur Waters, Nov. 27: The 220, west of Watson's shaft, is driven 12 fms. 4 ft., and the end is now forth to the end of a large cavity, which has let down more water than anything of the kind experienced in the mine for a long time past. The sides of the cavity show a high state of crystallization, there being a good supply of carbonate of lime, quartz, and cubes of solid galena. The portion of the lode now in hand is worth 2 tons of lead ore per fathom, but what will be developed when the sides of the great vugh are shot down it is yet premature to say. The 220, east of shaft, is driven 16 fms., and the end is now up to the east end or through a big cavity; lode in the present forebore being worth 2½ tons per fathom. There is a long piece of ore in front of this end discovered by the 206 east. Behind the said 220 end (some 5 fms.) we are stripping the faces of the cavity of the full width of the lode, the yield at present being about 3 tons per fathom. The three stopes in the back of this level, east of the winze, are worth together 5 tons per fathom. The lode in the 206, west of shaft, is yielding good stones of ore. The four stopes in the 206 east are worth together 7 tons per fathom. The 182 east is improving, and looks like entering the shale bunch.—Pump Sump: The lode here has fallen off a little in the line of the sump owing to the coming in of a bunch of sulphate of barytes, but as the great deposit of ore on the old lode was attended by this mineral from Boat level downwards I look upon it in pump sump as a good omen. The lode in present bottom shows in the middle of the sump 3 tons per fathom, but in the west end, where the other day it was best, the ore course is only worth 1½ ton per fathom. But results are not always the same day by day. The new shaft going down on this part of the mine is 10 fms. deep ground, of a favourable character. The portable engine is in place, and the masons are building loading for winding drum and walls of house as fast as the very severe weather will admit of. We have to-day sent off samples of 80 tons No. 1 quality, and of 20 tons No. 2 quality lead ore, for sale next week. But for the frost and snow we should have 100 tons No. 1 parcel.

TEESDALE.—John Slack, Nov. 26: West End Stope No. 1: There is I think a further improvement in this working. Its being so regular these last few weeks is undoubtedly the most satisfactory feature of the mine.—West End Stope No. 2: We have cut more ore at a higher point in this working than we have ever reached before, which seems to be going stronger and better upwards—we are not so far off the limestone at this random, where this discovery has taken place.—East Branch: This continues only poor, though one fathom with another it will not do more than pay expenses. I have suspended it till later on. Dressings going on first-rate. There are 18 blings gone to Middleton; the remainder on the 10.

TYN-Y-FRON.—E. Jones, Nov. 25: We are still working in the second stope, west of adit cross-cut, where we find the blende holding up quite as good as last reported. No alteration in the lead, being a strong mixture in places. We are glad to hear our last parcel of blende made such a good produce, and hope soon to have another.

WEST CHIVERTON.—R. Southey, William Roberts, James Moyle, Nov. 26: Hawkes' Engine-Shaft: In the 70 cross-cut, south of this shaft, there is no change worthy of remark since last reported. The lode in the 110, west of shaft, is 2½ ft. wide, worth for lead and blende 5s. per fathom. In the 140, west of shaft, the lode is 3 ft. wide, producing good stones of lead and blende occasionally, but at present yielding to value. Batters' Engine-Shaft: The lode in the 150, east of shaft, is 3 ft. wide, worth for lead and blende 10s. per fathom. In the 160, east of shaft, the lode is 4 ft. wide, producing good stones of lead. The lode in the 150, east of cross-cut, west of shaft, is 3½ ft. wide, worth for lead and blende 8s. per fm. The lode in the 60, west of shaft, is 2 ft. wide, producing good dressing work for lead, worth 5s. per fathom. In the 170, west of shaft, the lode is split into two parts, and very much disordered, consequently it is at present unproductive. All the other points throughout the mine are much the same as when last reported on.

WEST HOLWARY.—R. Rowlands, Nov. 27: We are making good progress with our shafts, and every endeavour is being made to complete them, so that we can soon commence tackling our valuable discoveries.

WEST PATELEY BRIDGE.—David Williams, Nov. 27: The 57 north-west has been extended from shaft 32 fms. 1 ft., and is now within 3 fms. of the cross-joint upon which we purpose rising and sinking to communicate between both levels. The vein in the end is 2 ft. wide, composed of gossan, quartz, sulphate of barytes, intermixed with blotches of lead ore and spots of blismuth. A stope in back of level in a vein 4 ft. wide is worth 10 cwt. of lead ore per fathom. The same level south-east is extended from shaft 27 fms. 1 ft.; the vein here is 3 ft. wide, and producing good saving work for dressing. The 56 north-west, upon the new vein, is extended from shaft 45 fms. 3 ft. in a vein 2 ft. wide, worth 4 tons of lead ore per fathom. No. 1 stope, in back of level, in a vein 3 ft. wide, is worth 1½ ton of lead ore per fathom. No. 2 stope in back of level is worth 1½ ton of lead ore per fathom. We have commenced sinking a winze below the 56, at a point 35 fms. 2 ft. north-west of shaft, in a vein 4 ft. wide, worth 3 tons of lead ore per fathom. In the 50 west upon Craven cross-vein the vein is improving, at present 2 ft. wide, and producing spots of ore. The cross-cut south to the parallel vein is in from the main level 42 fms. 2 ft. 6 ins., and the north cross-cut 32 fms. A pitch in back of the 29, east of No. 2 shaft, at 5s. per ton of dressed ore. On surface our machinery is in excellent order and working well: dressing and smelting vigorously proceeded with.

WEST VOR.—S. Harris, Nov. 23: Telegram—"We have holed the shaft; particulars by post."

WEST WHEAL PEEVOR.—W. T. White, Nov. 22: Setting Report: During the past fortnight the six men engaged in driving the 35 fm. level cross-cut north to the lode have driven 2½ fms., which I consider very fair work, but in order for us to have still greater success we have put two men more, making eight. I should say with this alteration we shall reach the lode about the end of the present year, if not before. The remaining four of the shaftmen are engaged in cutting pit, &c., at this level, and when completed we shall commence to sink at once for another level. The 25 to drive west at 3s. 15s. per fm.; the lode in this end maintains its size and congenial character as last reported, at present opening ground that will pay to stope. The winze to sink in bottom of the 25 at 5s. per fathom; the lode in this winze is improving as it goes down. There are branches dropping in from the south, which is a good indication. Communication will be effected with this as soon as the 35 cross-cut is in. This is a good point. We have completed the collaring up of the trial shaft, and the men have again commenced to sink, and we expect in about three weeks time to have a sampling of tinstuff from both the shafts. The mine altogether is opening up very satisfactorily.

WEST WHEAL TOLGUS.—Nov. 27: The lode in the 155, west of Taylor's shaft, is 5 ft. wide, and yielding 1 ton of copper per fathom, and is still producing a good deal of white iron. There is no change in the ground in the 145 cross-cut, west of shaft, and the men are making very good progress in driving. We have not met with another part of the lode in the 135 cross-cut driving south, and we have the like we purpose driving about 6 ft. farther before opening on the lode we previously discovered in the cross-cut. The lode in the 125, east of cross-cut, on the south part, is 4 ft. wide, and yielding 3½ tons of ore per fathom, and the ground very easy for driving, st. to-day at 4s. per fathom. The lode in the 125, west of cross-cut, is 3½ ft. wide, yielding 1 ton of ore per fathom, and looking kindly for an improvement.—Richards' Shaft: The lode in the 65, west of cross-course, west of shaft, is 3 ft. wide, and improving in appearance, now yielding stones of munda and copper ore. The lode in the 95, west of shaft, is 4 ft. wide, producing a little saving work for copper ore, and, and from appearances we believe we are near a level to notice in the stopes throughout the mine.

WHEAL OREBOR.—J. Andrews, Nov. 25: The lode at the 120, east of cross-cut, maintains its size and value, and is still worth 80s. per fathom. West of cross-cut at the same level the lode has improved, and is now worth 90s. per fathom. The lode in the 108 east is 4 ft. wide, yielding stones of copper ore and munda, but not to value. The lode in the stope in back of the 108 is worth 15s. per fathom. The new lode in the 108, east of cross-cut, has improved, and is now worth 25s. per fathom. The new lode in the stope in back of the 108 is worth 40s. per fathom. The 72 east is poor. There is no change in the 48 cross-cut south, or new shaft.

—John Andrews, Nov. 26: I am pleased to inform you that the new lode at the 108, east of cross-cut, has further improved, and is now worth 35s. per fathom. All other points are of equal value to last report.

WHEAL GRENVILLE.—T. Hodge, Nov. 26: Gould's shaft is about 4 fms. 3 ft. below the 165 fm. level. The great lode is going down more perpendicularly, and the shaft is all in country rock; the shaft will be sunk at the same angle as now, whether we have the lode or not. The 165 east end produces low-price tin-stone. We have the lead ore being going on regular with the end, and at the same time we have a doubt in our minds whether there is not a more productive part standing in the side. The rise going up will prove this when communicated with the other level. The rise in back of the said level is worth 10s. per fathom. The 150 east end is worth 10s. per fathom. The rise in back of the said level is worth 8s. per fathom. The 140 east end is worth 9s. per fathom. No other change.

WHEAL JANE.—R. Southey, Nov. 26: Last Saturday we put in motion a new steam-engine, erected to drive the jiggers instead of working them from off the end of the stamps axle as heretofore, and I am pleased to say we are working admirably. Our next object is to attach all our dressing machinery to the same engine, which will be done forthwith; when this is complete, together with the classification of the ore, and the saving of 10 per cent. in preparing the minerals for the calciners will be effected. An additional 12 heads stamps will be ready in a few days to pulverise the halvans and the burnt leavings. Our underground operations are going on satisfactorily. In the deep adit end we have driven on the lode 16 fathoms, but no north wall is yet met with. In the shallow adit the lode is equally as well as last reported on; we shall lay open a large piece of ground for stopping when the end is communicated with the rise below. I beg to say in conclusion that everything throughout the mine is going on satisfactorily.

WHEAL PEEVOR.—W. T. White, Joseph Pryor, Nov. 22: Setting Report: The sinking of the engine-shaft below the 80 is being satisfactorily carried on. The 80, to drive west, at 5s. 10s. per fathom; lode worth 42s. per fathom. The 70, to drive west, at 4s. 10s.; lode worth 18s. per fathom. The cross-cut to drive north at the 70, at 5s. 10s. per fathom. The 70, to drive west on the north lode, at 6s. per fathom; the lode is of a promising character. The 60, to drive west, at 5s. 5s. per fathom; lode worth 20s. per fathom. The 48, to drive west, at 6s. 10s. per fathom; lode worth 10s. per fathom. The cross-cut, to drive north at the 48, at 5s. 10s. per fathom. The 38, to drive west, at 4s. 10s. per fathom; lode worth 35s. per fathom. The rise in back of the 48, at 5s. 10s. per fathom; lode worth 38s. per fathom. A winze to sink in the bottom of the 36, west of cross-course on middle lode, at 5s. 10s. per fathom; lode worth 10s. per fathom. The 38, to drive east of main lode, at 6s. per fathom; worth 10s. per fathom. The 38, to drive west of No. 1 cross-cut, at 6s. per fathom; lode worth 7s. per fm.

The 26, to drive west, at 4s. 10s. per fathom; lode worth 15s. per fathom. The 60, to drive west of main rise, at 4s. per fathom; lode worth 8s. per fathom. The main rise in the back deep adit level (carried 12 feet long), at 8s. per fathom. Four stopes were also set to 16 men at prices varying from 3s. to 3s. 15s. per fm.; lode worth in each, 18s. per fathom. Our tribute setting next month. The men engaged in clearing up the old sump shaft in the eastern part of the mine are making very good progress in doing, and we are daily expecting to reach the bottom of the sump; when this is done we shall then be in a position to commence operations in this part of the mine, which we doubt not will prove of equal productiveness as that of any other part of the mine. During the past month we have had very favourable weather for our surface work, in erecting our addition of 16 heads of stamps, &c. Should it continue, we think we should get them to work in about six weeks' time. The mine still looks well, and our returns of tin are equal to any former period.

WHEAL RUSSELL.—John Bray, Nov. 27: The lode in the 55 is worth fully 1 ton of good copper ore per fathom, and very likely to improve. We have commenced to drive a level west of rise, above the 55, which will be called the 40 fm. level; the lode is 3 ft. wide, producing small portions of copper ore and munda, looking very promising.

WHEAL USY.—Wm. Rich, M. Rogers, Nov. 24: There is nothing new discovered in the 172 cross-cut south; the ground is hard for driving. The 172 end, east of Hind's shaft, is in a large, kindly lode. The 172 end yields low quality tinstone. The lode in the back of the 172 west is worth 10s. per fathom. The 160 east is without material alteration; we have not yet cut through the lode. The 160 end west is worth 8s. per fathom. The 130 west is not yet driven through the lode. The 130 east yields low quality tinstone.

EAST CHIVERTON MINE—SPECIAL REPORT.

SIR,—Having received the following from a shareholder who has recently had the mine inspected by one of the best authorities of the Chiverton district, I think it may be interesting to those connected with this promising property to have the opportunity of knowing the opinion of Capt. William Hancock on the mine.

GRANVILLE SHARP, Secretary.

Nov. 25.—I yesterday inspected the above mine, which is to the east of West Chiverton, and, no doubt, on the same lode. The engine-shaft is sunk to the 90, and cross-cut extended south towards the lode 3 fms.; in about four weeks more it will be intersected. The 74 is driven west of the shaft about 70 fms., lode in the extreme end about 2 ft. wide, of a promising character for the production of silver-lead in paying quantities. In this level from 12 to 15 fms. of good ore ground has been driven through, worth in places 1½ ton of lead per fathom. This is a decided improvement from the level above (the 60), and augurs well for the 90, which will give about 15 fms. back to deal with. At present there is nothing doing in any of the levels above. In the 50, east of the shaft, about 100 fms. has been driven in a large lode, at times producing occasional stones of lead. No level has been driven east below it. When the lode is intersected in the 90, and a few fathoms driven on it west, I would advise extending the level east also.—South Lode: The cross-cut at the 60 is extended towards it about 50 fathoms from the bearing of it. At surface there is about 10 fms. more to drive to intersect it. You have three important points to come off—namely, the level with the run ore in the 90 west, which I see no reason to doubt from the appearance and component parts of the lode goes on well below the 74; the driving of the 90 east under the large lode driven through in the 50; and the intersection of the south lode. There is a good 50-in. pumping-engine on the mine, with suitable pitwork attached; the ground on the lode easy to work. Therefore a good discovery in either of the points referred to would place the mine in a good position.—WILLIAM HANCOCK.

LLANRWST—SPECIAL REPORT.

Nov. 26.—As requested, I made a thorough and careful examination of the Llanrwst Lead Mining Company's mine on the 22nd inst. I found all the surface arrangements complete for separating, crushing, and dealing with a large quantity of ore. Underground since my last visit there has been a great quantity of ore opened out, as will be shown by the following. In the 10 above adit there are 36 fms. driven, which will yield 2 tons per fathom, or the stopping will equal 720 tons; the lode at the face of the heading looks good. In the adit there are 110 fms. of ground open from the Prospect shaft, which will yield 3 tons per fathom, or when stopped a quantity of not less than 330 tons, or a total reserve of ore in the adit and the 10 above of 4050 tons. The lode within a few yards of the face of the adit is 8 ft. wide, and branches off into two lodes, which are 3 ft. 6 in. wide each at the face; at 50 fms. from the Prospect shaft the lode is cut up to the 10 above. I measured it again at this point, and found it was 9 ft. wide; this of course is an exceptional circumstance, but one which brightens the prospects of the mine. Even supposing you sold the lead at the lowest price, with a pig-market at 17s. 2s. 6d., you would realise 12s. per ton, and at this price your reserves would bring not less a sum than 48,000s., to say nothing of the lode in the 14 below adit, which I have reported upon previously, and which I know is even better than the adit and the 10 above. Endeavour's shaft requires to be sunk down some 7 fms. lower, so that the water from the 14 below can be drained, and to continue this work at once. I cannot for one moment imagine why the shareholders as a body do not come forward and take up the preference shares at once. I can see nothing to alter or shake the opinion I gave upon this important mine in August, 1877, everything is good. You have plenty of lead, and the only thing which requires immediate attention is that the preference shares should be taken up to complete the work I have stated. I might suggest that the shareholders should encourage Captain Knapp in his difficult task, instead of visiting the mine to find fault with his work. The mine looks better than I have ever seen it, and in my opinion would at once become a good dividend-paying concern if the directors and shareholders would only work together to find the necessary funds.—GEORGE BARKER, Mining Engineer.

CENTRAL FOXDALE MINE—MONTHLY REPORT.

Nov. 22.—Engine-Shaft: The 120 east has made fair progress. Within the past month the lode has considerably improved, and is daily increasing in width and value; worth at present 2 tons of lead ore per fathom. Its general appearance and character indicate most favourably for further improvement. In order to facilitate progress in the 105 a portion of the lode is being carried, but contains no ore to value. The character is most promising, and a constant flow of water issues from the forebore, which is an encouraging feature. The lode in the winze east sinking below this level is yielding a slight mixture of lead ore. A favourable change has taken place, and there is every appearance of an early improvement. Moreover, the ore discovered in the level below is just under this winze, and undoubtedly is a continuation of the same run of ore. The rise in the back of this level is progressing favourably. In shooting down the north side a nice stope has been discovered, and the appearances are very encouraging. We shall report on this again in a few days. The No. 1 stope in the roof of the level is worth 1½ ton per cubic fathom. The No. 2 stope is worth 1½ ton per cubic fathom. The winze sinking below the 90 east is progressing favourably; the lode is worth ½ ton of lead ore per fathom. We anticipate a communication with the rise below about the end of the present month.—Tribute: The pitch in the bottom of the 90 is worth from 15 cwt. to 1 ton of lead ore per fathom.—Taylor's Shaft: The pitch in the back of the 75 is producing 15 cwt. lead ore per fathom. The lead ore delivered towards the next sampling, 34 tons.—W. T. HARRIS.

CORNISH PUMPING-ENGINES.—The number of pumping-engines reported for October is 16. They have consumed 1752 tons of coal, and lifted 130 million tons of water 10 fms. high. The average duty of the whole is, therefore, 49,900,000 lbs. lifted 1 ft. high by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Mellencar—76 in.	Millions	57.5
Mellencar—Gundry's 80 in.	56.8	
West Basset—Thomas's 60 in.	53.3	
West Wheal Frances—58 in.	53.1	
West Tolgus—Richard's 70 in.	53.3	
West Wheal Seton—Jarvey's 85 in.	65.7	
West Wheal Seton—Rule's 70 in.	65.3	

COPPER ORES.

Sampled Nov. 12, and sold at Swansea, Nov. 25.							
Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Betts Cove—130	67½	£4 12 6		Cavara	97	18½	£8 13 2
ditto—130	67½	4 12 6		ditto—	83	11	7 2
ditto—88	8½	5 9 6		ditto—	83	11	7 3
ditto—88	8½	5 9 6		ditto—	92	11	7 3
ditto—87	8½	5 8 6		ditto—	82	11	7 3
ditto—87	8½	5 10 6		Berehaven	92	10½	7 4
ditto—80	8½	5 6 6		ditto—	89	4½	5 17
ditto—80	8½	5 6 6		Woolston Reg	17	26½	19 6
ditto—80	8½	5 14 6		ditto—	17	27½	19 6
ditto—97	8½	5 14 0		ditto—	53	23	14 4
ditto—97	8½	5 14 0		Copper Reg.	31	40	27 13

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Sales and Purchase of Minerals and Metals arranged. Assays and Analyses carefully conducted. References given.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, NOV. 28, 1879.							
IRON.		£ s. d.	£ s. d.	TIN.		£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde.	2	19	9	English, ingot, f.o.b. ...	98	0	0
" Scotch, all No. 1 ...	3	0	0	" bars ...	99	0	0
Bars, Welsh, f.o.b. Wales	6	5	0	" refined ...	100	0	0
" in London.	6	12	6	Australian	95	0	0
" Stafford.	7	15	0	Banca	99	0	0
" in Tyne or Tees ...	6	15	0	Straits	95	0	0
" Swedish, London ...	9	10	0	COPPER.			
Rails, Welsh, at work.	6	5	0	Tough cake and ingot.	70	10	0
Sheets, Staff., in London	9	0	0	Best selected	72	10	0
Plates, ship, in London.	8	0	0	Sheets and sheathing.	75	0	0
Hoops, Staff., in London	8	10	0	Flat Bottoms	79	0	0
Nail rods, Staff., in Lon.	7	15	0	Wallaroo	75	0	0
STEEL.				Burra, or P.O.O.	74	0	0
English, spring	13	0	0	Other brands	71	0	0
" cast	30	0	0	Chilli bars, g.o.b. ...	68	5	0
Swedish, keg	13	0	0	PHOSPHOR BRONZE.			
" lag. ham.	15	0	0	Alloys I., II., III., and IV. ...	£115	0	0
LEAD.				" VI. and VII.	130	0	0
English, pig, common ...	17	5	0	" XI., Spl. bearing metal	110	0	0
" " L.B.	17	5	0	BRASS.			
" " W.B. (nom.) ...	—	—	—	Wire	7½d.	—	—
" sheet and bar ...	18	5	0	Tubes	9	—	—
" pipe	18	15	0	Sheets	8½	—	8½d.
" red	19	0	0	Yel. met. sheath. & sheets	8	—	8½d.
" white	29	0	0	TIN-PLATES.* per box.			
" patent shot	20	0	0	Charcoal, 1st quality ...	1	8	0
Spanish	16	15	0	" 2nd quality	1	8	0
NICKEL.				Coke, 1st quality	1	4	0
Metal, per cwt.	15	0	0	" 2nd quality	1	3	0
Ore, 10 per cent. per ton	20	0	0	Black ...	12	10	0
QUICKSILVER.				Canada, Staff. or Gla. ...	—	—	—
Flasks, 75lbs. war. (nom.)	7	5	0	" at Liverpool	12	0	0
SILVER.				Black Tagers, 450 of ...	30	0	0
Silesian	19	10	0	14 x 10	—	—	—
English, Swansea ...	19	0	0				
Sheet zinc	25	0	0				

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more than 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—With the close of the autumn quarter, the bulk of the business for this year is virtually over, and we are now about to enter upon the duller quarter of all for the metal trade. The increase in business during the past few months has been something considerable, and prices now occupy a much higher position than for some time past. The improvement, however, has shown itself more in iron, especially in the old and raw material, than in any other branches, and good clearances have been effected of old stock. A more satisfactory trade would have been transacted had not speculation stopped the progress of legitimate buying, but speculators believing that a most favorable opportunity offered for pushing up prices, eagerly caught at the chance and bought at random. Scotch pigs at one time reached 68s., but very quickly fell away again to 53s. and 54s., from which there has been a steady recovery to 59s. 9d. Makers have contrived to gain a large share of the demand, and have re-lighted several furnaces, so that the production is more than equal to the revived demand, and public stocks are increasing. Manufactured has participated to some extent, but particularly rails. Copper and tin are also better in price, and the former has risen 13s. to 14s. per ton; there is, however, no excess of demand over supply in copper. Nevertheless, these matters are not gone into very minutely while the spirit of speculation prevails. The capitalists are apparently tired of keeping their money unemployed, and seek an outlet for it. No doubt one or more will be found, but as to its being profitable is quite another question. It is not generally a very hopeful or promising state of things when speculation checks legitimate business. It is all very well for people to say that regular trade will follow, and speculators will be able to reap a fine harvest by their operations, but to speculate upon a possibility of that sort is relying upon a very poor support. It is easy to understand that speculators would like it to be so, but the majority of consumers and shippers do not quite see it in the same light and refrain from purchasing, while the speculative public are bent upon buying. The steady regular buyer for the moment has to give place to the speculation, and he cannot keep pace with such rapid strides as are now being made to force up quotations. An improved value for any article realized by extraneous influences or by exceptional and accidental causes is no real gain for a market. A temporary advantage for an ultimate loss should always be avoided; and, therefore, whenever speculation is carried on at the expense of regular business, its existence is much to be regretted. Speculators of small means should be particularly cautious not to be left with outstanding contracts at high prices, neither the home trade or the foreign markets warrant the advances which have been effected. The stocks of most metals are still large, and as soon as a lull takes place, prices will as suddenly recede as they have risen. Many difficulties and troubles, perhaps, have been overcome, but others still remain, and much anxiety will be felt for some time to come. England has had a very bad harvest. The country is becoming agitated about the next Parliament. Ireland is disquieted. South African troubles continue; the Boers are in arms against us. The final settlement of Afghanistan has yet to be accomplished. England is overburdened with taxation, and additional imports will have to be made to replenish an exhausted exchequer. The revenue returns continue unsatisfactory. Hostilities are spoken of as probable between China and Japan; open war is still raging between the republics of South America. The Eastern question is still troublesome, and may at any moment break out afresh, as Turkey objects to conform to European ideas and customs, and Russia is jealous of our aggrandisement of territory in Asia. Money must of necessity become dearer, for the enhanced value of staple commodities must needs make it so, and there will be a greater demand for it presently, when speculative prompts fall due. The increased prices will stimulate production, and are sure to unsettle the trade in the manufacturing districts, for the men will not long be content to work at the low scale of wages when prices are improved. Speculators have, indeed, their work cut out to maintain the markets; they have not only to provide the means to pay for prompts falling in, but they will have opposed to them importers and regular suppliers, and all consumers and shippers.

The Indian Exchange is again declining this week, and the more prices are pushed up the longer business will be pushed off.

The winter has already set in with some severity, and suspended building operations.

Trade with the northern ports is finished, and nothing of any interest is now likely to occur in the way of extending business much before the ensuing spring; in the mean time a little reaction in price is certainly advisable, if not necessary.

COPPER.—Owing to continued speculation, this metal has been variable, both in respect to the demand and its value. At the beginning of the week there was some impetuous movements to buy, but it just as suddenly ceased as it sprang up, and in the same unaccountable manner; as buyers became elated so they became depressed. The market is evidently very sensitive, and easy to make impressions upon it. There are not likely to be many bona fide buyers at the present prices, for they are too high for the regular consumers, and cannot justly be maintained for any length of time; but speculations can, of course, carry prices temporarily to any pitch they may please. Although it is impossible to say what people may or may not do, yet speculators have a keen eye to self-interest, and no one knows the danger of speculating at advanced prices more than those who deal in copper. Our advice has been, and still is to those who have been operating to realize profits, or cut the loss, as the case may be, the time will come, and it may not be so far off as some suppose, when copper cannot be sold within several pounds of present prices. The copper market sometimes takes rather peculiar turns, and periods arise, and some of them have been of rather long duration, when sales are next to an impossibility. It is not a concession of 10s. or 20s. per ton that will suffice to bring out buyers, but even 5s. per ton reduction upon nominal quotations has been offered, and the offer refused. As yet there is no symptom of improvement in many of the regular markets; and as to America, there is not the slightest prospect of her wanting copper in any quantity from here. A great deal has been made of the American inquiry, but it is pretty evident that recent advices from New York show that quotations in the open market do not admit of any importations of English or Chili copper based upon present prices.

IRON.—There is no very material change in the position of this market, though the demand may, perhaps, to some extent, have slightly improved, and prices for nearly all descriptions are quoted higher. Sellers display no eagerness whatever to press sales, having their order-books well filled, and buyers, in many instances, have had to pay higher prices. Most of the markets in the country are reported to keep active, though prices show but little alteration. It will be seen by the following reports from several of the leading districts that the demand for both home consumption and for shipment continues good, and that no falling off in inquiries, from what has lately been said to exist, has been perceptible. From Newport it is stated that the trade in the Welsh districts not only maintains its former position, but is gradually improving, and the business which is now coming to hand is so encouraging that preparations are being carried out to restart some more works, which have for a long time past remained closed. Not only is the demand for shipment to America said to keep good, but that for India is likewise reported to be improving, a large order for rails having already been secured. Makers show but little inclination to enter fresh contracts of any magnitude at present rates, having plenty of orders now on their books. Pigs are in fair request, without much alteration taking place in price. According to accounts received from Birmingham, the trade there remains active, though there is scarcely so much inclination manifested to speculate as there was a few weeks back. The wages question continues a topic of considerable discussion, the men believing they are fully entitled to a further advance in the rate of their earnings, on account of the continued increase in the value of iron. Wrought nails are still in very good demand, owing partly to the recent strike, and partly to the general revival in the trade of the country. Prices for all descriptions are firm, and the manufactured trade generally is developing. The Sheffield makers declare themselves to be busy, especially manufacturers of ship plates, which are said to be gradually increasing in demand, owing to the great revival of ship-building, both in Scotland and in the North of England. To meet the rising demand, additional furnaces are being put into blast, and most of the men are enabled to obtain full employment. Quotations are being advanced, and it is expected by some that they will rise shortly still further, owing to the recent rise in the scale of wages, on the principle of Mr. Chamberlain's award. Most, if not all, the forges at Leeds are reported to be well employed, and bars and plates are in better request. Prices are rather irregular, especially those for forward delivery, sellers being so very exorbitant in their views, and buyers are rather unwilling to pay the rates demanded. Railway iron is in fair request, on account of an improved demand from many of the railway companies. The Middlesbrough market is firm, and prices keep fairly steady, though they have slightly improved since last week, No. 3 being quoted at about 58s. Shipments are still being made on a large scale, but it is thought they would have been still greater, if the weather had been less stormy. Fresh orders are anticipated for rails, and one of the works in this district is reported to have secured an order for 10,000 tons for shipment to Afghanistan. The demand for plates is very good, and it is thought by some that if it so continues, fresh mills will have to be re-started to meet the requirements of the trade. Prices for all descriptions of finished iron are improving. Plates being quoted at 7s. to 7s. 5s., business being transacted chiefly at the former price; angles 6s. 7s. 6d., and bars 6s. 5s. per ton. The Glasgow warrant market having kept tolerably steady all last week at about 56s., opened on Monday at 56s. 3d., but rapidly rose to 58s. cash; and a good business having been executed, quotations advanced another 1s. 6d., but it receded again to 58s. 6d., and then rose until 59s. 9d. became the ruling quotation, at which the market closes this evening.

For week ending Nov. 22, 1879.....	Tons	8,791
For week ending Nov. 23, 1879.....	Tons	6,693
Increase.....		2,098
Imports of Middlesbrough pig iron into Grangemouth:—		153,387
For week ending Nov. 22, 1879.....		6,147
For week ending Nov. 23, 1879.....		5,151
Increase.....		996
Total decrease for 1879.....		30,914

In blast Nov. 22, 1879..... 99
In blast Nov. 23, 1879..... 88

TIN.—This metal has once again materially improved in value, and foreign tin is now quoted up to 95s. The market quotation at the commencement of the week was about 92s. per ton, which figure was held with considerable firmness, and on Wednesday it rose to 93s. to 93s. 10s. Yesterday, owing to the high prices realized at the Banca sale at Amsterdam, which went at an average of 58 1/2 gilders, the price quickly advanced to 59s. 10s. to 96s. for fine foreign, at which the market closed firm, and to day the market has remained steady at the advanced figure.

LEAD.—There is not an active business reported in this metal; nevertheless, prices remain steady, and, in some instances, sellers have become slightly firmer in their quotations. Shipping orders keep scarce, especially to the Indian markets.

SPELTER.—A fair business continues to be carried through for Silesian at former prices, but transactions in English remain as they have done for the greater part of this year, very limited, and prices make little alteration.

STEEL.—Manufacturers in most districts are well employed, and show no eagerness to effect fresh contracts.

TIN-PLATES.—This market is quiet, but prices remain fairly steady.

QUICKSILVER is unchanged and firm at 7s. 6s., with a good business.

THE MINING SHARE MARKET during the early part of the week was only moderately active, but after the settlement of a heavy fortnightly account, which had occupied the chief attention of the dealers for some days, the market began to improve, particularly for tin mines, which had previously been comparatively flat, but suddenly became in demand on Friday, and soon afterwards it was announced by telegram that the smelters had advanced the standards for ore 4s. per ton.

TIN.—The Dutch sale of Banca tin went off well. It realised a price equal to 98s., and upon this becoming known in London on Thursday afternoon there was an advance here to 96s., and it was anticipated that the smelters would soon advance the standard for ore in Cornwall, notwithstanding that one of the body seems to think that it has been advanced enough for the present year. Capt. Teague states that with tin at 95s. there is a margin of 13s. 17s. 6d. per ton between buyers and sellers of ores, and if this be the case there is room for yet another rise in the standards.

Carn Brea advanced on Friday to 57 1/2, 60. Cook's Kitchen, 3 1/2 to 4; Dolcoath, 55 to 57 1/2. Wheal Pevor, from 17 to 19, 21; the agents report that the 14 points in operation in the mine are valued in the aggregate at 248s. per fathom. East Pool, 20 to 22; Botallack, 70 to 90; East Lovell, 2 to 2 1/2; South Cundurrow, 14 to 15. South Frances have been done at 11, but advanced on Friday to 12, 12 1/2. Tincroft, 16 1/2 to 17 1/2; West Basset, 11 to 12; West Frances, 12 to 13; Wheal Basset, 3 to 3 1/2; Wheal Grenville, 5 to 5 1/2; Wheal Kitty (St. Agnes), 3 to 3 1/2; Wheal Uny, 1 1/2 to 1 3/4; West Pevor, 5 1/2 to 5 3/4; Wheal Owles, 110 to 120. Wheal Agar, 5 1/2 to 6; we have not received particulars of the meeting, but a call of 10s. per share has been expected.

COPPER.—A fair amount of business has been done in copper mines, and in some of them at advanced rates. A general opinion prevails that copper will advance in the coming year. Devon Great Consols, 4 1/2 to 5 1/2; particulars of the meeting will be found in another column. Wheal Crebor improved to 8, leaving off 7 1/2 to 8 1/2; the 120 end east is worth 80s. per fathom. The 120 west has improved to 90s. per fathom. The new lode in the 108 east has improved to 35s. per fathom. The sampling for the two months is 489 tons of ore. Parys Corporation have been in good demand, and leave off 18s. to 20s. The ground in the 90 cross-cut south is undergoing a great change, and the agent thinks he is near a course of ore. Morfa Du, 15s. to 17s. 6d.; East Caradon, 2 1/2 to 3; Hingston Down, 10s. to 12s. 6d.; Mellanear, 4 1/2 to 4 3/4; Marke Valley, 27s. 6d. to 32s. 6d.; New Cook's Kitchen, 6 1/2 to 7; East Crebor, 22s. 6d. to 27s. 6d.; South Caradon, 65 to 75; West Seton, 47 1/2 to 50; West Tolgus, 26 to 28.

LEAD is advancing; the prospect for lead mines has materially improved, and a good business has been done in several. Van, 22 to 23; the 105 west is worth 2 1/2 tons per cubic fathom. All matters both at surface and underground going on well. Roman Gravel, 11 1/2 to 12; the 25 tons of blende fetched 125s. 6d. Tankerville, 5 to 5 1/2; the sampling here is 80 tons of first and 20 tons of second quality, but for the first the first would have been 100 tons. D'Eresby Mountain have been in good demand, and leave off 30 to 35; the lode in No. 5 sump, for the width carried, is worth 1 1/2 ton per cubic fm. Great Laxey, 18 to 19. Derwent have become in demand, and leave off 2 1/2 to 2 3/4. South Darren, 2 1/2 to 3 1/4; the monthly sale of 50 tons of silver-lead yesterday realised 856 1/2 s., or an average of 17s. 2s. 6d. per ton, being an advance of 10s. per ton on last sale. This gives a good profit exclusive of the copper, and the directors anticipate the early commencement of dividends. Pandora, 10s. to 12s. 6d.; there is a good improvement here in the bottom level on the new lode, worth 15 cwt. of lead and 15 cwt. of blende per fathom. They have sampled 20 tons of lead and 20 tons of blende, both of good quality, for the month. Sinking deeper will soon be commenced.

East Roman Gravel, 3 1/2 to 4; the 97 cross-cut has just reached the lode, but the main part is not yet seen. A large stream of water is coming out, which is a good sign. The 76 is worth 1 1/2 ton of lead ore per fathom. The 86 is improving, and a few fathoms further driving will reach the course of ore in the 76. Glenroy, 10s. to 15s.;

the agent here reports improvements at both ends in the 100 fathom level. Grogwinion, 3 1/2 to 4; the mine sold yesterday 100 tons of lead ore, at 11s. 10s. 6d. per ton. Caron, 2 to 2 1/2; Crosswood, 1 to 1 1/2. Fron-goch, 3 1/2 to 3 3/4; this mine has sampled 100 tons of blende, for sale on Dec. 4. Hartington, 1 1/2 to 2; Mawston, 1 1/2 to 2; Red Rock, 1 1/2 to 2. West Wye Valley, 1 1/2 to 1; the sampling here is 15 tons of lead. Wye Valley, 1 1/2 to 1; this mine has sampled 50 tons of lead, for sale on Dec. 2. East Van, 2 to 2 1/2; Gorsedd and Merilyn, 1 1/2 to 2 1/2. Herodsfoot, 2 1/2 to 3; this mine is looking well, and improving. Leadhills, 3 1/2 to 4; North D'Eresby, 1 to 1 1/2. Pateley Bridge in request, at 15s. to 20s. West Asshetons have advanced to 2 1/2, 2 3/4. West Chiverton, 3 to 3 1/2; West Pateley Bridge, 2 1/2 to 2 3/4; West Hol-way, 1 to 1 1/2; Gwernymynydd, 5 to 5 1/2; Aberllyn, 10 to 11; Clementina, 1 to 1 1/2.

FOREIGN MINES.—Arendal, 4 to 4 1/2. Blue Tent, 2 to 2 1/2; washing has been resumed, and all the necessary repairs to canal, &c., completed. Placerville, 2 1/2 to 2 3/4; the operations underground have laid open a splendid body of ore, upon which the mill will start the beginning of next month. The mine continues to open out well. Canada Gold, 1 1/2 to 1 3/4; Hultafall, 1 1/2 to 2; Ruby, 4 to 4 1/2; Cape Copper, 32 to 34; Chontales, 7s. 6d. to 10s.; Colorado, 1 1/2 to 1 3/4; Don Pedro del Rey, 15s. to 20s.; Eberhardt and Aurora, 3 1/2 to 3 3/4; Flag-staff, 1 1/2 to 1 3/4; Frontino and Bolivia, 2 1/2 to 3; Javali, 7s. to 9s.; Last Chance, 12s. 6d. to 17s. 6d.; New Quebrada, 3 1/2 to 3 3/4; Panulillo, 4 1/2 to 5; Pestarena, 5s. to 7s.; Richmond, 9 1/2 to 9 3/4; St. John del Rey, 270 to 280; Santa Barbara, 2 to 2 1/2; Tecoma, 1 1/2 to 2.

The Market for Mine Shares on the Stock Exchange was considerably less animated at the beginning of the week, but the continued upward tendency of metals has altogether dispelled the temporary depression, and the market closes quite as healthy as last week. This afternoon the Cornish smelters advanced the tin standards 4s.; they will now consequently stand 86s. for common, 87s. for superior common, and other qualities in proportion, whilst metal tin, the market for which is somewhat excited, is fully 5s. per ton higher, and copper, lead, and spelter, although still quoted the same, are decidedly firmer. In Devon Great Consols there has been considerable excitement, and dealers quote variously from 4, 4 1/2, to 5 1/2, 6; the latter would appear to be nearest the dealing price, as business both at 5 1/2, and later at 5 3/4, has been officially quoted in the House list. East Caradon have been done at 3; Mwyndy, 2 1/2; South Wheal Frances at 12 and 12 1/2; Van at 22 and 23; and West Chiverton at 3. In foreign the principal business has been in Panulillo, the dealings in which commenced at 4 1/2, and steadily advanced to 4 13-16ths; New Quebrada were done at 3 1/2, and then at 3 3/4; Colorado, 1 1/2; Flagstaff, 1 1/2; New Zealand Kapanga, 7-16ths; Nouveau Monde, 1/2; Rio Tinto Spanish bonds at 8 1/2 and 8 3/4, and shares at 6 1/2. All this indicates a thoroughly healthy business, and capitalists have consequently much greater confidence in the general stability of the market.

On the Manchester Stock Exchange business in mineral and manufacturing companies' shares has been scarcely so brisk, although a good steady business has been carried on. An odd lot of Andrew Knowles was sold at 7 1/2 dis., but they are now quoted 6 1/2 to 6 3/4 dis.; Bolckow, A, were done at 12 prem.; ditto, fully paid, 119 1/2; Cammels at 8 dis., and they are now 7 1/2 to 7 3/4 dis. An odd lot of John Browns were done at 1 1/2 dis. on Monday, but yesterday there were two regular deals at 12 and 12 1/2 dis. West Cumberlands now stand at 7 dis.

On the Newcastle Stock Exchange, as will be seen from Messrs. Spence and Irwin's report in another column, there is continued firmness, and a fair business has been done in Bede Metal, Conssett Iron, Conssett Spanish Ores, Darlington Iron, Hopkins Gilkes, John Abbot and Co., Skerne Iron, and West Cumberland. Dubby Syke, Green Hurth, Hexham and Edmondbyer, and Teesdale shares have also been dealt in.

The Lady Ashburton Silver Mining Company, the prospectus of which will be found in another column, has been formed with limited liability, and a capital of 30,000l., in shares of 1l. each. The property, which is favourably reported upon, is more fully referred to in an article on Silver Mining in Cornwall.

The Bryn Glas Silver-Lead Mining Company have given notice that the subscription list for shares will close on Dec. 3 for London, and on the day following for country applications.

Mid-Devon Copper shares have been enquired for during the week, it being understood that the company's Belstone Mine has now been forked after 18 months of anxious work, and considerable expenditure upon machinery. Explorations at the 80 have been resumed, and the directors have every confidence that large returns of copper ore will be made at an early date. The company have now a good new 60-ft. water-wheel, about 2000 ft. of 2 1/2-inch Swedish connecting rods, and the necessary filter beds; precipitate tanks, &c., have been constructed. The enterprise is considered to be altogether in an excellent position.

East Crebor, 1 1/2 to 1 3/4; there is nothing new with regard to this undertaking.

Devon Great Consols, 5 1/2 to 5 3/4; it is stated that the advance is owing to the highly satisfactory meeting of shareholders on Wednesday (full particulars of which appear in another column). The shares are said to have an upward tendency; indeed, it is predicted that with the continued rise in copper and arsenic the shares may be nearer double this quotation by the next half-yearly meeting in May next, previous to which time it is not doubted that dividends will be resumed. The shares (with 1l. paid) in these mines were once at about 70s. per share, or equal to 700,000l. to 750,000l. for the mines, whereas now it is only at a marketable price of 50,000l. Already on these 1l. shares 116s. per share has been paid in dividends, or 1,160,000l. paid back to the shareholders on an outlay of only 10,240l. As was stated last week, some of the largest buyers of shares are to be found in the neighbourhood of the mines.

Missouri (Lead), 10 to 11; advices received this week report favourable progress at the mines. The buildings on the St. Clair estate (recently purchased by the company) are being put in thorough repair, and will afford additional accommodation for miners. The price of pig-lead at St. Louis continues firm at about 26s. per ton.

St. John del Rey, 270 to 280; the latest telegram from the mines at Morro Velho, dated Nov. 23, states that the profit for October was 5400l. Another telegram, two days earlier, states that the produce for the first division (11 days) of November was 10,250 oits, of the value of 3971l., the ley of the ore being 6 oits per ton. Don Pedro North del Rey, 3 1/2 to 4; the manager writes that since his last several of the new 2 1/2 inch bolts, just arrived from England, have been put in the 60 ft. wheel, also two keys more around the old axle; it will take a short stop or two more to complete the job. The wheel is working well, and forking the water very fast. In consequence of the water being in for the above reason, very little has been done towards the bottom of the mine; however, he hopes soon to be able to report that operations are being carried on here rapidly, and without interruption.

Richmond, 9 1/2 to 9 3/4; the usual telegram from the mines at Eureka, Nevada, states that the week's run was 840,000, from 721 tons of ore. During the week the refinery produced doré bars to the value of 845,000. The manager (Nov. 5) writes that operations have been carried on with the usual regularity. The ore chambers are opening very well, and are much improved since last week. The furnaces are in good working order, and smelting large quantities of ore. The machinery both in the mine and smelting works is in good working order. Ruby, 4 to 4 1/2; the exploratory points in the bottom of the Dunderberg are reported to be showing unusual promise for early and important discoveries. The cross-cut from the Dunderberg to the Home Ticket will cut under the course of ore upwards of 50 fms. deeper than where seen above. There are several other important points now being prosecuted.

In Hydraulic or Gold Washing Companies' shares there has been more business doing. At the Columbian Company's property they earned \$117 profit during September. Blue Tent, 1 1/2 to 2; the repairs on the canal have been completed, and washing has recommenced, but not with a full head of water as yet, though a considerable quantity of rain has fallen.

Placerville, 2 1/2 to 2 3/4; the work of opening up the mine is steadily progressing, and when the new mill starts work, at the end of this month, there will be no difficulty in supplying all the ore that can be passed through it. The vein at the different ends is producing very fine quartz.

In Lead Mine Shares there has been no material change. During the earlier part of the week there was less business doing in them, as in mine shares generally; but yesterday and to-day there has been a complete recovery. American advices continue to confirm the opinion that for many years British mines will be unaffected by their over production depressing prices in this country. The price of lead in the United States is reported by last mail received at from

25% to 26% per ton, and the market firm, with an upward tendency. The great activity in the building trade in America this year has been one of the means of absorbing a large quantity of lead. Stocks in hand are now very light, and higher prices are predicted for the coming spring trade. It is probable that next year the United States will again be a purchaser of lead in the English market.

Van, 21½ to 22½; the 105 west is still worth 2½ tons per fathom, and looking remarkably well. No change elsewhere. Mineral Corporation, 12 to 13; the mines may now be regarded as in full operation. The manager writes that the new crusher was started on Wednesday evening, and works admirably. They are now in full swing crushing and dressing ores. No change of importance underground at the higher mines. At Great D'Esby they are making fair progress in driving the deep adits, considering the hardness of the ground. As they progress into the mountain the ground is becoming more mineralised, and on Thursday they broke some of the best lead that has been seen since they commenced the cross-cut to the lode. These indications look well for the lode when intersected. During the week their machine drills have advanced the deep adit 2½ fms.

Gwynnynydd, 5 to 5½; the official report to-day states they have 3 ft. solid ore in the lower flat, and that for the width of the level carried it would produce 12 tons per fathom, and the whole width is estimated to produce 25 to 30 tons. The rise in the east and west lode, now nearly up to the upper flat, is valued at 4 tons per fathom. The discoveries made in the mine in the last week are of the most important kind. The mine is looking well at all points. Fronchoch, 3½ to 3¾; 100 tons of blende will be sold on Dec. 4. Very satisfactory progress is being made in all parts of the mine. Caron, 2 to 2½; an improvement is reported in the bottom of the mine. Red Rock, 1½ to 2; mine looking well; dressing operations vigorously progressing. Wye Valley, ½ to 1; this mine sells another parcel of 50 tons of lead on December 2. The reconstruction scheme has been very favourably received, and will be carried through successfully. West Wye Valley, ½ to 1; this company will sell a small parcel of lead on December 5. Mawston, 1½ to 2; at the recent meeting of shareholders it was decided to increase the capital. The prospect of important discoveries is understood to be highly favourable. Hartington Moor, 1½ to 2. Crosswood, 1 to 1½; it is understood that a sale of a portion of the estate is in contemplation.

The subjoined is the list of the closing quotations:—
Ashton, 1 to 1½; Carn Brea, 55 to 60; Devon Great Consols, 4½ to 5½; East Caradon, 2½ to 3½; East Van, 2½ to 2¾; Gwynnynydd, 5 to 5½; Glenroy, ½ to ¾; Glyn, ¾ to 1; Great Laxey, 18 to 19; Kingston Down, ½ to ¾; Leadhills, 3½ to 4; Marke Valley, 1½ to 1¾; Pateley Bridge, ¾ to 1; Roman Grange, 1½ to 1¾; Tankerville, 5 to 5½; Tincroft, 16 to 17; Van, 22 to 23; West Ashton, 2½ to 2¾; West Basset, 11 to 12; West Chilverton, 2½ to 3½; West Pateley Bridge, 2½ to 2¾; Wheal Crebor, 7½ to 8½; Wheal Grenville, 5 to 5½; Almada and Tinto, 3½ to 4½; Birdseye, ½ to ¾; Blue Tent, 2 to 2½; Canada Gold, 1½ to 1¾; Cape Copper, 32½ to 33½; Chontales, ¾ to ¾; Colorado United, 1½ to 1¾; Don Pedro, ¾ to ¾; Exchequer, ¾ to ¾; Flagstaff, 1½ to 1¾; Frontino and Bolivia, 2½ to 2¾; Hualfala, 1½ to 2; Kapanga, ¾ to ¾; New Quebrada, 3½ to 3¾; Pestarena, ¾ to ¾; Placerilla, 2½ to 2¾; Richmond Consolidated, 1½ to 1¾; Ruby and Dunderberg, 4 to 4½; St. John del Rey, 270 to 280; Sierra Lutes, 1½ to 1¾; Santa Barbara, 2 to 2½; United Mexican, 2½ to 3.

At the Swansea Ticketing, on Tuesday, 1847 tons of ore were sold, realising 13,145.7s. The particulars of the sale were—Average standard for 9 per cent. produce, 90.19s. 2d.; average produce, 10½; average price per ton, 7.12s. 4d.; quantity of fine copper, 197 tons 12 cwt. The following are the particulars of the two last sales:—
Date. Tons. Standard. Produce. Per ton. Per unit. Ore copper.
Nov. 4. 1728. 8. 8. 8. 8. 12s. 6d. 66 11 2
25. 1847. 90 19 2. 10½. 7 2 4. 13 3½. 66 10 5
Compared with the last sale, the advance has been in the standard 2.19s. 6d., and in the price per ton of ore about 6s. 4d. Messrs. Richardson report that Betts Cove ore gave a produce of 7 13-16th, and realised 13s. 1½d. per unit; Caveira, produce 9 13-16th, per unit 12s. 11d.; Berehaven, produce 9 9-16th, per unit 13s. 8d.; and Vignas, produce 25, per unit 14s. There will be no sale on Dec. 9.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. Abbott, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

Messrs. PEXLEY and ABELL.—GOLD: The arrivals since last week's circular comprise—139,740z from Australia and China; 96,440z from the West Indies, by St. Nazaire steamer; 15,000z from Melbourne, by John Elder; total, 308,180z. This amount, though large in itself, has proved quite inadequate to supply the wants of exporters, and no less than 803,000z. in bars and coin has been withdrawn from the Bank for transmission to Egypt, America, and the Brazils, and further sums will follow. On the other hand, 46,000z. in sovereigns, have been sent in from Australia. The steamers which left Havre on the 15th and 22nd inst. took 880,000z. gold to New York, and the P. and O. vessel leaving to-day has 249,000z. for Alexandria and 5000z. for India.—SILVER: The fear of increased shipments of Austrian silver from Venice has somewhat tended to the further depression of our market, and the price has declined to 53d. to 53½d.; there is, however, no silver now offering from abroad at these quotations, and for the present there is but little business doing. We have received during the week—23,970z. from India, 7030z. from New York, 12,000z. from Germany; total, 43,000z. The P. and O. steamer leaving to-day takes 129,000z. to India, and the vessel which left Venice on the 22nd inst. had 175,000z. for the East.

ADVANCE IN THE TIN STANDARDS.—Telegram: Penzance, Friday Evening: The Cornish smelters have to-day advanced the tin standards 4. per ton. The standards now are—superior common, 86s.; superior fine, 87s. per cwt. The standards are now 30s. higher than they were last June. Much excitement prevails at the mining centre of Redruth, and shares are in strong demand. The schooner Pegasus, of Beaumaris, bound from Plymouth for Carnarvon with limestone, was assisted into Penzance Harbour to-day. She reports that soon after midnight, when at anchor in Mullion Roads, a large three-masted schooner, called the Caledonia, drove across her bows, carrying away her bowsprit, gibbon, and all head gear. The Caledonia sustained damage to her side and bulwarks. The Ketch Lynn, of Penryn, bound from Liverpool to Plymouth with oil cake, also put into Penzance to-day, having carried away the head of her mainmast last night when three miles south of the Manacles.

With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Mining Speculation (W. W. Barnes); Sheffield Local Companies—Revival of Trade; Blyth, the Legitimate Port for the North-western Steam Coal Export (W. J. H. Thompson); Immense Increase of Revenue to Russia—Hyper-rehabilitation of Imperial Finances (W. J. Thompson); New South Wales Coal Mining (R. D. Adams); on Compressed Air—No. II. (J. H. Thompson); Mining Safety-Lamp Patent (J. D. Snakapen); Bickford's Patent Igniter, and Simultaneous Blasting (Bickford, Smith, and Co.); Differential Pressure Indicators; the Flagstaff Silver Mining Company of Utah (A. A. de Metz); Ruby Consolidated Mining Company (E. Oppert); Cape Copper and Panulicillo Copper; Panulicillo Copper Company; Rock-Boring—the Darlington Drill (H. Williams); Rock Drills (J. Kimbrell); Rock-Boring Machinery (J. Barkell); Darlington and Eclipse Rock Drills (H. Teague); Patent Eclipse Rock Drill and Reliance Air Compressor (Hathorn and Co.); Circular "Speculators" and their Proceedings; the United Van Consols and Glyn Company; South Frances Mine; the South Darren Silver-Lead and Copper Mine; Royalty Question—Home Mines; the Welsh Mines; Welsh United Mines. Meetings of Public Companies: Coplago, New Quebrada, Devon Great Consols, Bedford United, South Darren, and Vancouver Coal Mining and Land Companies. Almada and Tinto Consolidated Silver Mining Company. Reduction of Temperature. South American Geology, &c.

DEVON GREAT CONSOLS.—ROYALTY QUESTION.—In another column will be found a full report of the proceedings at the half-yearly meeting of shareholders, to which the attention not only of the shareholders but the readers of the Journal generally should be directed. To their indefatigable and able Chairman and managing director—Mr. Peter Watson—the shareholders are much indebted for the present improved state of affairs. Ever since he became a director he has displayed his abilities in endeavouring to weather the greatest copper depression on record without calling on the shareholders for a penny, or receiving any assistance (like that which has been rendered to other large leading copper and tin mines in Cornwall) from the lord of the mine—the Duke of Bedford. It is to be hoped that his Grace, after reading the proceedings of the meeting of shareholders on Wednesday, will yet liberally come forward and act as all having the permanent welfare of mining at heart certainly think he should do. It can scarcely be believed, seeing that the dukedom has already received over 330,000z. in royalty, &c., in the last 35 years, and that whilst at the next largest copper mine—South Caradon—the royalty has been recently reduced to 1-30th, that his Grace will continue to insist on his power to enforce 1-18th. From the various communications published in the Mining Journal on this important question of royalty, not only from the shareholders in Devon Great Consols, but others who are looking on this illiberal conduct of the Duke of Bedford to his mineral tenants, and to Devon Consols in particular, it seems probable that in next Session of Parliament there will not only be the question of the land and agriculture to be enquired into, but also the high rate of royalties exacted, as adventurers in the development of our metallic mines in this country cannot but see with dissatisfaction that whilst our home mines are heavily burdened, in other countries producing tin, copper, and lead there are but very slight, if any, royalties to be paid by persons investing money in the development of mineral properties. It should not be over-

looked by mineral lords that when many of the present leases were granted in our British mines (at the exceedingly high rates and terms generally imposed in those leases, regarding land damages, &c.) there was not then the great foreign competition and large importations of metals and minerals into this country, derived from places where no royalties, as we said before, have to be paid. This question is now very prominently before the various leading mining companies, and the information obtainable will no doubt be brought before both Houses of Parliament next year. In many mines the royalties are now 1-30th, 1-40th, 1-50th, and 1-60th, or even less than the latter—in some cases for a time given up altogether. It would be particularly interesting to have further information on these important matters from mine managers or pursers of mines in this country.

WEST HOLWAY.—Ample capital is in hand to complete the new shafts. The prospects are very good.

PANDORA.—There is an important improvement in the bottom level on the new lode. They have sampled for the month 20 tons of lead and 25 tons of blende. The sinking of the shaft to deep levels is to be carried out forthwith.

MID-DEVON COPPER MINES.—It is gratifying to be able to announce that after months of anxious work and considerable expenditure upon machinery the water has now been pumped out of the Belstone Mine and the men are at work driving east, west, and north at the 80 fathom level, laying open and exploring the Great Belstone lode, from which the directors are confident of making large returns of copper ore at an early date. The present company are thus in a position to reap the benefit of the bargain they made when, some eighteen months ago, they purchased this extensive property from the Belstone Company for the low price of 7000z. Since then a considerable sum has been expended upon new machinery, consisting among other things of a splendid new water-wheel 60 ft. in diameter and about 2000 ft. of 2½ in. Swedish iron connecting rods. Some filter-beds and precipitate tanks have also been constructed, and the whole works have been carried out in a thoroughly substantial manner with a view to mining operations on an extensive scale. When the Belstone Company stopped last year in consequence of the complete breakdown of the old pumping machinery and the want of capital with which to replace it, their shares were selling at 2½ to 3½ each. The shares of the present company ought, it is considered, to be a good investment at the same or higher prices, as the company has the advantage of good machinery and a reserve of working capital, better prices for copper ore, and a reduced royalty to pay on it.

WHEAL CREBOR.—The announcement of an improvement in the 20 and west has caused a considerable rise in the shares, partly on strong buying orders, and partly on "bears" closing their accounts. A very large business was done in the shares on Wednesday and Thursday, and shares have risen to 8½ 10s., the market closing exceedingly strong. The rise in Crebor, and the fact that the eastern ground is improving both in the 108 and 120 levels, has attracted the attention of investors as well as speculators to East Crebor, who are awakening to the fact that every fathom of rich ore ground opened up in the eastern part of Crebor is materially adding to the value of the prospects in East Crebor; consequently a large amount of dealing has taken place in the shares, both in and out of the Stock Exchange, and it is understood that several gentlemen largely interested in Crebor have been quietly absorbing East Crebor shares.

THE RUBY CONSOLIDATED COMPANY.—The Master of the Rolls had before him on Tuesday the case of the Ruby Consolidated Company v. Heynemann, the action in which was to make the defendant account to the company for 2876 fully paid-up shares, and 2000z. in cash, which had been paid to him as a promoter of the company. His Lordship granted the decree asked for against the defendant.

THE CHIEF MINING DISTRICT OF CORNWALL.—Amongst all the maps which have from time to time been submitted to the mining community none surpass, if they equal, those published by Mr. R. Symons, of Truro. The last of a numerous series is that advertised in our present number, and entitled "A Map of Camborne, Illogan, Redruth, and Gwennap Mines," in which, from a recent revision, all the boundaries of the numerous sets are corrected to present date, and the mineralogical characteristics noted. To produce such a map much time and labour must necessarily have been devoted. Such a map must prove of value to all interested in the mines embraced, in particular such mines as the Peabors, Dolcoath, Carn Brea, Tincroft, South Condurrow, West Basset, South Frances, &c., as their relative situations are clearly shown. The price is certainly very moderate for such a comprehensive area—extending from Gwinnear eastern boundary to Chacewater. We think that Mr. Symons deserves not only the patronage but the gratitude of the mining public.

REPORTS FROM CORNWALL.

CORNISH MINING SHARE MARKET.—Mr. JOHN CARTER, Camborne (Nov. 27), writes—Little change has taken place in prices during the past week; less business has been transacted, but prices have been fairly maintained. At the close a firmer tone prevails, with a slight improvement in some instances, and a better demand for shares generally. Closing prices annexed:—Blue Hills, ¾ to 1; Carn Brea, 54 to 55; Cook's Kitchen, 3½ to 3¾; Dolcoath, 53½ to 54½; East Pool, 21 to 21½; Killifreth, ½ to ¾; New Cook's Kitchen, 6½ to 7; Penhalls, 1½ to 1¾; South Condurrow, 13½ to 14; South Crofty, 5 to 6; South Frances, 11½ to 12½; Tincroft, 16 to 16½; West Basset, 11 to 11½; West Tolgus, 11½ to 12½; West Peavor, 5½ to 5¾; West Seton, 47 to 49; West Tolgus, 24 to 26; Wheal Agar, 5 to 6½; Wheal Basset, 3½ to 4½; Wheal Grenville, 5 to 5½; Wheal Jane, 4½ to 5½; Wheal Kitty, 2½ to 3½; Wheal Peavor, 17½ to 18½; Wheal Uny, 1¼ to 1½.

Mr. M. W. BAWDEN, Liskeard (Nov. 27), writes—The East Cornwall Mining Share Market during the week has been more active for tin and copper mines, and prices generally have improved, closing firm as follows:—Bedford United, ½ to ¾; Carn Brea, 53 to 54; Clitters, 1½ to 2; Dolcoath, 54 to 55; Devon Consols, 4½ to 5; East Caradon, 2½ to 2¾; East Pool, 21 to 22; Gawton, ½ to ¾; Glasgow Caradon, 1½ to 1¾; Herodsfoot, 2½ to 2¾; Kingston Down, ¾ to ¾; Marke Valley, 1½ to 1¾; Phoenix, 2½ to 3; South Caradon, 60 to 62½; South Condurrow, 13½ to 14; South Crofty, 6½ to 7; South Frances, 11 to 11½; Tincroft, 16 to 16½; West Chilverton, 3½ to 3¾; West Mary Ann, 1 to 1½; Wheal Crebor, 7½ to 7¾; West Tolgus, 25 to 26; Wheal Uny, 1½ to 1¾.

REPORT FROM NEWCASTLE-ON-TYNE.

NEWCASTLE-ON-TYNE STOCK EXCHANGE.—Messrs. SPENCE and IRWIN, stockbrokers (Nov. 27), write—Our market for local shares continues very firm, although in some cases there is a check to the rise, prices having reached what is considered to be the present value of the shares. Bede Metal and Chemical Company shares have been done this week at 1½ and 1½ dis.; but at the moment there are no buyers above 1½, nor sellers under 1 dis. Conssett Iron shares have continued to rise since the strike at the plate-mills was arranged; all that were offered at 13 prem. having been bought up. There are none on sale to-day, so that a further rise is probable. Conssett Spanish shares are a trifle easier, being now offered at 2s. 3d. Darlington Iron shares are also rather weaker, sellers asking 9 dis., but without meeting buyers. Hopkins, Gilkes, and Co. have been done this week at 2½, and are still marketable at that price. John Abbot and Co. shares have marked a further improvement, 25½ dis. being now bid for them. Skerrie Iron shares are now 4½ to 4¾, with a fair demand. They have been done lately at the latter figure. West Cumberland are still rising, the lowest price at which they are offered being 5½ dis.—Dubbyske Mine: 8s. per share is bid for the 17s. 6d. paid shares, sellers asking 7s. 6d. The fully paid (20s.) shares are offered at 9s.—Green Hurth Mine: Although the reports from this mine continue very good, the shares are rather giving way in price, being now offered at 4½ 17s. 6d. per share. Hexham and Edmondshyers Mine share continue in demand at par.—Teasdale Mine: The strong buying from Durham has kept these shares at about 6s. 6d. for ordinary and 7s. for preference shares. The shareholders are anxiously awaiting Messrs. Cain and Vipond's reports.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Nov. 22	United Van Consols	15	£10 12 6	Adam Eytton.
27	Foxdale	100	14 14 0	Weston, Son, and Co.
	West Ashton	60	12 1 0	Far Smelting Co.
	Grogwilion	100	11 10 6	ditto
28	South Darren	50	17 2 6	Goodhardt and Co.

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A GENTLEMAN (37), with many years' commercial experience, and accustomed to travel among Iron, Coal, Tin-plate, Chemical, and Manure Works, DESIRES to REPRESENT a GOOD FIRM dealing in requirements for above class of works. First-class references.
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PURCHASERS OF
LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, HARD LEAD, BRASS SLAGS AND ASHES, COPPER REGULUS, MATTE, SCORIA, TIN ASHES, TERNE ASHES, &c., and MIXED ORES or REFUSE, containing LEAD, COPPER, TIN, or ANTIMONY.

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MANGANESE, ARSENIC, FLUOR-SPAR, WOLFRAM, BLENDS, CALAMINE, CARBONATE AND SULPHATE OF BARYTES, ANTIMONY ORE, CHROME ORE, MAGNESITE, EMERY STONE, PUMICE STONE, COBRES AND UMBERS, CHINA CLAY, LEAD ORE FOR POTTERS, TALC, PHOSPHATE OF LIME, &c.

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ANALYST AND ASSAYER,
Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and other Ores.
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WANTED, for a SLATE QUARRY, situated two miles from a large Port on the Mediterranean, a PARTNER with or without capital. The quality of the Slates is equal to the best supplied by the Welsh Quarries. The Quarry is situated on a hill side, and the mining requires no engines or any kind of machinery.
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WANTED, an ENERGETIC BUSINESS MAN to ACT as SECRETARY, and co-operate with the Owner to FORM COMPANIES for the WORKING of a TIN MINE and a COPPER MINE, adjoining the richest mines in CORNWALL, and on same veins. The copper mine has been opened only at the adit, which has laid open a course of ore of great length. Small capital required to place them in a dividend-paying state. Inspection courted.
Apply to "Mining Engineer," 26, Fleet-street, London, E.C.

TO MINING ENGINEERS, AND OTHERS.

EMPLOYMENT WANTED by a Young Man holding MINING DIPLOMA OF SCIENCE AND ART DEPARTMENT. Accurate draughtsman and good analyst. No objection to go abroad. Good references.
Address, "L. W. N.," Deacon's Advertisement Offices, 154, Leadenhall-street, London.

WHEAL CREBOR—EAST WHEAL CREBOR.

WHEAL CREBOR.—The forthcoming sale of copper will give a very large profit—much larger, in fact, than was estimated at the meeting. The mine is certainly looking splendid, and the shares will most assuredly go higher. The lode in the 120 west has now improved to £90 per fathom, and the shares have had a further considerable advance. Our Tavistock correspondent writes us:—"Shares will soon go to £12 per share, and if Crebor continues for a few months longer to open up as it is doing shares will go over £20." We are BUYERS of any number at the market price.
We again call special attention to EAST CREBOR. These shares are being steadily purchased for investment, and large transactions have taken place this week at higher prices. It will be noticed that the best ore ground in Crebor is going in the direction of East Crebor. Shares should be bought. We are BUYERS of 500 Shares at the current quotation.
Sellers of Crebor or East Crebor are requested to apply at once to us.

JAS. SCOTT AND CO., PALMERSTON BUILDINGS, CITY.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER,
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ALL BUSINESS TRANSACTIONS FREE OF ANY CHARGE FOR COMMISSION.

Notice to Investors and Speculators.
MR. BUDGE has SPECIAL DEALINGS in—
40 Blue Hills. 50 Flagstaff, £1 8s 9d. 100 Parys Copper.
50 Bedford United, £s. 9d. 20 Gunnislake Clit., £2. 35 Phoenix, £3.
100 Bodidris. 20 Grogwilion. 50 Ruby.
60 Chapel House. 35 Herodsfoot. 10 South Frances, £12½.
100 Cambrian. 25 Hingston Down, 15s. 60 South Crebor.
25 Devon Gt. Cons., 4s. 15 Llanrwst, 17s. 6d. 20 South Darren, £23½.
40 Devonport and Tiver- 50 Marke Valley. 2 South Caradon.
ton Brewery. 10 New Cook's Kit., £7½ 100 Tamar Silver-Id, 27s 6d.
40 East Caradon, £23½. 20 North Busy, £3½. 50 West Ashton.
2 East Pool, £21. 100 North D'Esby, 20s. 5 Wheal Crebor.
75 East Crebor. 20 Penhalls. 10 West Frances.
10 Frongoch, £4½. 150 Pestarena, £s. 6d. 30 Wheal Uny.
BUYERS or SELLERS of any of the above, or holders of any Stocks or Shares not readily marketable, will do well to apply to Mr. Budge.

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CONFIDENTLY RECOMMEND the PURCHASE of SHARES in the
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Copy of Reports of Special Surveys by several eminent Mining Engineers may be had on application.
ALL METALS—IRON, TIN, LEAD, and COPPER—are daily improving in value. Much higher prices for good BRITISH MINE SHARES is assured.
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THROGMORTON STREET, advises the PURCHASE of EAST CREBOR shares at £1 2s. 6d. to £1 7s. 6d. This is the adjoining mine, and on the identical rich lodes as Wheal Crebor, the shares in which mine have advanced during the last six months from 5s. to the present price—£1 15s. to £2 5s. It is not generally known that East Crebor has produced some of the richest yellow copper ore in England, one parcel of which realised the high price of £26 15s. per ton. Mr. POWELL has business in EAST CREBOR shares as buyer or seller.

FOR SALE:—
50 Bettws-y-Coed. 25 East Van. 50 South Darren.
50 Bryn Glas. 20 Herodsfoot. 50 South Cambrian.
5 D'Esby Mountain. 100 North D'Esby. 50 Tyn-y-Fron, £1 paid.
100 East Crebor. 50 Parys Corporation. 100 ditto, 7s. 6d. pd.
WANTED TO PURCHASE:—100 Bwch United, at £1 par.
Address, H. WILKINS, 3, Heybourn Villas, Tottenham.

Notices to Correspondents.

Sir,—I am desirous of obtaining, if possible, compulsory powers to cross some fields outside the boundaries of my mining set for the purpose of clearing out an ancient adit level and air shaft, which, when connected with a level on my own set, will unwater the mine to a considerable depth, and so greatly facilitate working that no material damage will be done to the lands of the persons who refuse me the permission I seek, and for which I am quite willing to pay. Can any of your readers inform me whether there is any book published giving a code of the Stannaries laws and mode of procedure? Any information on the subject will be much esteemed by—STANNARIES COURT.

THE MID-DEVON COPPER MINES (near Okehampton).—Will the Agent or Secretary kindly inform the public how the new machinery recently erected at these mines is working? and whether there have been any breakages connected with this new machinery since it has been put up? We shall also be pleased to know whether they have forked the water to the bottom of the mine? If so, whether their prospects are so good as are anticipated?—AN INVESTOR IN MINING.

NORTH D'ERESBY MOUNTAINS.—What's in a name? Although this mine is not situated between the D'eresby Mountain Mine and Clementina, it is north of it, and so are other good mines we hope. The North D'eresby Mine is a mine of great promise, or so say all the practical men who have inspected it.—BEAZLEY AND CO.

Received.—J. H. N. (Madrid).—W. E. Y.—"Caractacus." Next week.—"T. K."—"J. H. N."—"S. S. L."—"R. T."—"Constant Reader."—"W. T." (Schull).—"F. G." (Answorth).—"N. W."—"J. H. L." (Luton). The company was wound-up five years ago, and secured creditors received a dividend of 3s. 4d. in 1l. For further information apply to Mr. H. Wilson, 18, Old Broad Street, London.—"Shareholder" (South Frances).—"Old Subscriber" (Brighton) had better write to the secretary.

THE MINING JOURNAL.

Railway and Commercial Gazette.

LONDON, NOVEMBER 29, 1879

THE BAROMETER AS AN INDICATOR OF GASES IN MINES.

As we have now arrived at that period of the year when it is said atmospheric influences more particularly affect the gases in mines, it would be well for those in charge of such that are known to give off considerable quantities of gas to take more than ordinary precautions to prevent any accident from its ignition. December has seen some of the most terrible catastrophes from explosions that have been recorded, and there certainly does not appear to be any reason why we should have a recurrence of them if the known safeguards and precautions are adopted. These principally consist in sending in copious supplies of fresh air, perfectly ventilating every part of a mine, not even excepting the goaves, where such can be, and at the same time by the strictest supervision, seeing that the Act of Parliament, as well as the special and general rules, are fully carried out by both the officials and workmen. Reliance should not be placed upon instruments to give warning of changes that may be likely to liberate gases, and allow them to accumulate in large and dangerous quantities. Many managers of mines have paid marked attention to the changes in the barometer, as if it was to be depended upon more than anything else, whilst some such idea must evidently have influenced those who framed the Mines Regulation Act of 1872, for it provides that "After dangerous gas has been found in any mine a barometer and a thermometer shall be placed above ground in a conspicuous position near to the entrance of the mines." Before the passing of the Act many mine managers placed great reliance upon the changes in the barometer, and no doubt more so since seeing that the Government has compelled its compulsory adoption at all places where gas has been found. Yet now our ablest mining engineers—or very many of them at least—consider that the barometer is not to be depended upon, being too slow in its movements in indicating the presence of those peculiar and subtle influences that lead to a mine becoming largely charged with gas. When the mercury column falls the gas is supposed to issue out of the pores of the coal, and when it rises it is said to be forced back into the mineral, and so both the roads and the working places are kept free and comparatively healthy. One authority who has gone largely into the matter remarks that admitting bodies to be sensitive in degree as their specific gravities makes the matter less favourable to the barometer, for mercury has a specific gravity of 13.598, whilst that of gas in the pores of coal is not more than 0.559, and probably not so much. Thus there were two bodies being acted upon simultaneously by the same cause, with densities varying as 26 to 1 against the mercurial column. From this and other circumstances it was considered that the barometer was not a sufficient indicator of the first or primary causes of explosions in coal mines, so that depending upon and looking for or waiting for the movements of the mercurial column has probably resulted in some disasters. It is said to be held by many persons connected with mines that the barometer tended to show the exudation of the gas from the coal, a view which is not entertained by the majority of engineers and managers. Some of those connected with fiery mines have found that when there was a large quantity of gas previous to the barometer falling it was also to be met with before its rising, so that the alteration in the state of the gas was not indicated by the barometer for some hours after it took place. In a paper read some time since by one of the most eminent mining engineers connected with the Midland coal field, it was stated that to be safe those connected with mines must look to some additional indicator as to the presence and giving out of gas in mines than the barometer. The idea was also broached with some force that possibly electricity might be the cause of the liberation of certain pent-up forces, for natural currents of electricity existed under certain circumstances which might lead to the liberation of the gases.

It is admitted that explosions of gas are more frequent in winter than summer, and it has been suggested that molecular forces might have something to do with the holding back of the gas. In summer they had the thermal forces sustaining their properties, and remaining the same in winter. In summer they had them in the atmosphere, in which they probably counterbalanced the molecular forces in the cavity of the coal; but in winter the molecular forces gave way, and then a reduction in the amount of them was such as to cause the balance in the thermal forces existing in the coal to be so great as to bring about a great influx of gas. The barometer was a very different thing from thermal observations, and if they could better understand the forces that existed in proportion to the increased mobility of these molecular forces they would be better able to deal with their gases. This was a view suggested by Prof. GREEN, who in noticing the cause of explosions remarked that he was much struck with their profound ignorance about the state in which gas existed, and what sort of force it was that held it back in the coal. He did not think it could be simply mechanical pressure, but must be something corresponding with what was called molecular forces—those forces which hold together the smallest atoms of a body; they were very powerful forces, but they knew nothing practically about them, but he had no doubt after experiments had been made respecting them that more carefully reported observations would then come to have an immense value. The observations already recorded would not justify him in saying anything about the effect of variations in the barometrical pressure. On some occasions, it may be said, there has been no more gas reported in mines during a low state of the barometer than when it was very high. Again, the barometer and thermometer have been known to be stationary for more than a day at a time, with the exception of a slight fall in the barometer at night, whilst a vast quantity of gas was escaping. This shows that the mercury was too slow for the gas. At the well-known Oaks Colliery the persons in charge, who were always on the alert, have known five hours previously that a change was taking place in the atmospheric pressure before the barometer indicated that such was the case. Another striking proof that the mercurial column travelled slowly—and, in fact, was in every way too slow for the action of the gas. It may, therefore, be safely assumed that so far as the exudation of gas from the solid coal is concerned the variations of the barometer are not of much practical importance, and there is some ground for concluding that the temperature has more to do with the exudation of the gas than barometrical pressure. Explosions, it has been pointed out, take

place when the barometer is low, whilst it cannot be disputed that they occur also when it is high. Mr. SCOTT, director of the Meteorological Office, and Mr. GALLOWAY have carefully collated the explosions that have taken place, with the condition of the barometrical pressure at the time, and prepared some interesting diagrams in connection with them. In one diagram it is shown that explosions occurred on 159 days in one year, but those of a fatal character on 60 days only. Out of the 159 days the barometer rose on 49, and was steady on 40 days, making 89 days on which explosions took place when the barometer was not falling, and 70 days when it was falling, or 44 per cent. with falling barometer, and 56 per cent. when not falling. Therefore, taking the diagram altogether, explosions do not favour a falling barometrical pressure. Without going more into detail we consider we have shown upon good authority that managers of mines that are known to give off gas, more especially at the present season, should not depend upon the barometer, or wait upon its indications, but take the best precautionary measure to ensure the safety of both property and workmen. This can be best accomplished by the most thorough ventilation, so that every part of a mine—every hole and corner—shall be swept with a strong current of fresh air, not only such as will render harmless any gas there may be, but make the places where the miners are employed both sweet and healthy.

THE NOTTINGHAMSHIRE IRON AND COAL INDUSTRIES.

Of the various mining districts in the kingdom scarcely any one has received less notice than Nottinghamshire, although as a coal producing county alone it has during the last 25 years grown more than any other. It is the southern extremity of the great Midland coal field, the largest in England, with the greatest amount of coal at a workable depth, and has the great advantage of being the nearest portion of it to the Metropolis, with which a good business is done in coal from several collieries. The limestone series, in connection with the coal field, it may be said commences in Nottinghamshire, extending northwards into Yorkshire and Durham, and is extensively quarried both for building and for being converted into lime. The thickness of the limestone about Cinderhill does not exceed 30 ft., and at the Newcastle Colliery was found to be 27 ft. Going northwards, however, the limestone gets much thicker, the greatest depth as yet sunk through to the Top-hard coal being at Shireoaks Colliery. After piercing the first seam of coal at a depth of 88 yards the men came upon a compact sandstone grit 66 yards thick, very hard and open, and on the rise a great portion was covered by the magnesian limestone. The sinking through that rock occupied no less than one year and eight months. The Top-hard coal was found at a depth of 510 yards, but was only 3 ft. 10 in. thick, while in other parts of the field it reaches the thickness of 10 ft. The bright portion, indeed, which is of considerable thickness at other places, was entirely wanting, the section giving 10 in. of softs, 10 in. of hard, 3 in. of bright, 12 in. of spiky—mixed hard and soft—and 11 in. of soft, in succession. The following is the thickness of the limestone at different points, at some of which it has been gone through to the coal measures:—

	Feet.
Near to Hucknall Torkard.....	about 100
Near Annesley	120
Near Kirby Forest	100
Near Warsop	140
Near Shire Oaks.....	318
Near Doncaster	360
At Ouston Park	262
At Byram Hall, near Pontefract	312

In Nottinghamshire are all the coal measures peculiar to the entire field, including the well-known black-shale or silkstone, but owing to its great depth, being from 360 to 380 yards below the Top-hard, it has not been much resorted to as yet. To the former, however, several collieries have been sunk of late, the Staveley and Sheepbridge companies having jointly tapped the Newstead estate, belonging to Mr. WEBB, and formerly the property of Lord BYRON, and which is more than 500 yards from the surface. A colliery has also been sunk at Bestwood, on the estate of the Duke of ST. ALBANS, to the same seam. The Cinderhill Colliery, in the Nottingham district, is 660 ft. deep to the Top-hard or riffer coal, whilst there is a second one about 1480 ft. to the main soft seam. The Aysworth Iron Company have three collieries going, having built three furnaces recently. The Linby Colliery, near to Nottingham, is also a comparatively new one, from which a large quantity of coal is sent to the south. Many of the small collieries where the coal was worked on the outcrop have ceased working, so that in the extreme southern parts of the field there cannot be much of the Top-hard seam left, for there are many abandoned pits south of the turnpike road from Nottingham to Watnall, but in their place large pits have been opened out northwards, surrounding the villages of Hucknall Torkard, Linby, &c., so that the average annual output of each colliery is upwards of 100,000 tons, the largest of any county. In 1855 the production of the county was 809,400 tons of coal, and it has advanced at the following rate:—

Year.	Number of collieries.	Tons produced.
1866	25	1,600,560
1868	27	1,508,433
1874	45	3,127,750
1875	46	3,265,368
1876	48	3,415,100
1877	47	3,895,750
1878	41	4,107,350

The increase since 1855 to the present time has been unprecedented in the mining history of the kingdom, being nearly five times what it was in the former year. A large tonnage of the coal raised is sent by railway to the Metropolis, Hucknall Torkard sending about 3000 tons a week, and Linby nearly as much. The two great rival railway companies—the Midland and Great Northern—cultivate the coal traffic for the county, and at Newstead, Bestwood, and other places there are to be lines of railway, giving the collieries more direct access to the main systems. In connection with the coal measure there is plenty of ironstone, but there does not appear to be any disposition to work it on the part of the few ironmasters in the county. At one large establishment, where there are eight blast-furnaces—the Stanton Iron Company—and where a good deal of the pig is worked up, the company find it more advantageous to obtain the stone from Northamptonshire, where a large area of ground has been leased direct. Last year the company drew from Desborough, near to Market Harborough, 79,000 tons, and from Wellingborough 110,000 tons. The Midland Railway Company give a low carriage rate, so that more than three-fourths of the ore raised in that county passes northward over the Midland. Last year the ironstone raised in Nottinghamshire only amounted to 12,250 tons. It may be stated that the ordinary blackband and argillaceous carbonates found in the coal measures do not produce quite so good a quality of pig as the Northamptonshire, but a mixture of the two at Stanton has made a good iron suitable for most purposes. Like most other districts the production of pig for some considerable time past has been but moderate, but now that there has been such a marked improvement in the demand, and prices are so remunerative, it is said that some of the furnaces that have been out for some time will be put in blast again. The following are the furnaces within the county or bordering on it:—

	Furnaces out.	Furnaces in.
James Oaks and Co.	1	2
The Butterley Company	6	2
Aysworth Iron Company	0	2
Erewash Valley Iron Company	2	1
Stanton Iron Company	2	6

Total

The Stanton Company have recently erected additional works for foundry purposes, have made a good start, and are turning out large quantities of castings. At Messrs. Oaks' foundries also business has been very fair in gas, water, and steam pipes. It is worth while noticing as an interesting fact that whilst the miners in the adjoining county of Derby, as well as those in Warwickshire, have during the year been in constant conflict with the employers on the wages question, there has been scarcely any misunderstanding between the colliery owners of Nottinghamshire and their employers, and the result has been advantageous to both, for the pits have been kept well going, and several of them are now doing an increasing business,

more especially with the Metropolis, as their customers have been able to depend upon supplies being promptly forwarded, which has not been the case at many places, owing to strikes leading to stoppages for a considerable time.

THE REVIVAL OF TRADE.

It is remarkable to notice the effect which the improvement in the iron trade is exerting upon the general business of the country. Notwithstanding the scanty and unremunerative harvest, from the results of which the agricultural interest must for some time continue to suffer, the revival of the iron trade was followed almost immediately by an unmistakable improvement in the cotton and woollen trades, as well as by improved prospects for the railway interest. We had forgotten the manufacture of chemicals, upon which Lord BEACONSFIELD discourses so profoundly and hopefully. Even the North-Eastern Railway Company—with the help, no doubt, of the improved demand for chemicals—has succeeded in arresting the severe decrease which has so long been noticed in its receipts. The London and North-Western Railway Company, again, is now beginning to issue decidedly more hopeful traffic bulletins. It would appear as if iron were king of modern industry, and that all who toil or speculate in these days thrive or suffer just as iron thrives or suffers. If this is really true the future of the country is dependent upon the future of iron. We can hardly affirm that this is the case; still the ramifications of the coal and iron trades are so extensive that they undoubtedly exert an enormous influence upon the general course of British industry.

Will the iron trade continue prosperous? That it has become prosperous—or, at any rate, relatively prosperous—may be fairly admitted; still the great and grave question remains, "Will it continue prosperous?" We think that it may be fairly affirmed that the tide of prosperity which has lately set in will not exhaust itself all at once, and may, indeed, be expected to flow for some time longer. Granting that we are not so very likely, perhaps, to find a permanent outlet for our iron in the United States—as the advance of American production may be expected to shortly prove equal to the requirements of American consumption—still prosperity in the American iron trade implies an absence of that inveterate American competition with which our ironmasters were threatened not so very long since upon the markets of Canada, South America, and Australia. For the present, at any rate, JONATHAN has as much to do at home as he can well manage to get through with; and a cessation of American competition upon several markets of more or less importance must be regarded as a decided boon. Then American prices react upon European quotations, and so long as liberal terms are obtainable for iron and steel at New York we do not think that our ironmasters will have much reason to complain of the rates ruling for their products in London, provided always that they can keep the cost of production within moderate limits.

Another circumstance which ought not to be overlooked in dealing with the revival of trade in Great Britain and the general aspect of commercial affairs throughout the world is the growing importance of the United States as a commercial and industrial nation. Occupied by an energetic population of nearly 50,000,000, endowed with splendid natural resources, and possessing considerable accumulated capital, the United States can scarcely fail to take every year a more and more commanding position among the countries of the world. The three leading nations of the globe are, undoubtedly, Great Britain, France, and the United States. We have placed the vast, wealthy, and powerful American Republic third in the list, but in some respects it may be said to occupy already the foremost place. Unless the Americans are the victims of corrupt Government and rotten institutions they ought certainly to attain a still higher position than that which they already occupy. But in order to work out an illustrious destiny they must be true to the virtues and precepts of such men as FRANKLIN and WASHINGTON.

THE MINING EXHIBITS AT THE PARIS EXHIBITION, 1879.

These exhibits, though not numerous, are of considerable importance, and are included under Class 34, "Mining and Metallurgy," and Class 64, "Geology applied to Industry."

The Diamond Rock-boring Company, the Continental Rock-boring Company, and the Foreign and Colonial Tunnelling and Prospecting Company unite to send a highly interesting collection of cores obtained by their system from a great variety of rocks. Among them an 11-in. core of grey chalk was brought up from Messrs. Meux and Co.'s Brewery, in the Tottenham Court-road, the bore-hole which solved the question as to the depth of the Paleozoic rocks under London, which were reached at a depth of 1144 feet. The other cores, 49 in number, are from the holes put down by the Continental Company at Aschersleben, Prussia, in order to prove the valuable potash salt deposits. Some of these cores were brought up from a depth of over 1400 ft., and consist of oolite, limestone, anhydrite, gypsum, red and variegated sandstone, loamy shale, variegated loam, blue and white clay, potash salt, and secondary rock-salt—thus proving that the Diamond drill will pass through any substance, whether hard, soft, friable, or dissolvable in water, and secure samples of all. Indeed, cores are obtained of an aggregate length equal to the depth of the hole, so that when re-united they show a complete geological section of the strata passed through; and by putting down two holes the dip of the strata may be accurately ascertained. Of all the borings undertaken by the Continental Company not a single hole has been lost, but all have furnished the scientific results intended. Last year No. 5 bore-hole at Aschersleben was begun on Jan. 1, and stopped on Sept. 18, having attained a depth of 902 metres (2960 feet). The time actually spent in boring was 100 days, giving a mean daily advance of about 30 feet. The principal strata passed through were new and old red sandstone, anhydrite, rock-salt, and potash salt, the diameter of the hole decreasing from 12 to 3 in. A silver-gilt medal was awarded by the jury, the reporter to which was M. Duhamel, director of La Houille.

The Wigan Coal and Iron Company were rewarded with a gold medal for their samples of iron ore, cannel coal, and house coal. The iron ore is raised from the company's mineral property near Cherchell, in Algeria, and contains 57 per cent. of metallic iron. The analysis is as follows:—

Fe ₂ O ₃ , Peroxide of iron	81.43
Mn O, Protoxide of manganese	1.20
Al ₂ O ₃ , Alumina.....	2.35
Si O ₂ , Silica.....	4.72
Ca CO ₃ , Lime	0.71
P ₂ O ₅ , Phosphoric acid	absent
S O ₃ , Sulphuric acid	trace
H ₂ O, Water.....	9.70

100.11

The high estimation in which the K.H.M. brand of pig-iron is held is due to the fact that it is made entirely from this Algerian ore, which contains no phosphorus whatever, and very infinitesimal quantities of sulphur. This pig, samples of which are shown, possesses great strength and tenacity, and is used where metal of the highest quality is required.

The Société Civile Française de Mines, Minières, et Carrières du Quercy (Lot) show a collection of the minerals raised by them, including some iron ore, first discovered by M. Pébezay, the managing director, and the production of which is said to be unlimited. The analysis is as follows:—

Silica (quartzose sand)	1.60
Sesquioxide of iron.....	93.10
Alumina	2.15
Calcareous salts and loss	3.15

100.00

Notwithstanding the absence of sulphur and phosphorus, and the vast quantity of ore, the mine is not being worked to anything like its fullest capacity, on account of the difficulty of interesting French capital in mining enterprise. Some ore resembling boiler scale contains 46 per cent. of manganese and 84 of iron; and the manganese ore contains from 85 to 92 per cent. of bi-oxide of manganese

dried at 212° Fahr. Some red ochre and steatites, consisting of silicates of manganese and alumina, complete the collection.

The Société Française Anonyme de Nickel have obtained a diploma of honour for their raw products of ore and metal, and another for the collective exhibition of articles manufactured from their nickel bronze. As this company has brought about a complete revolution in the nickel trade we propose next week to devote a separate article to their operations. The stand is in the nave to the right on entering by the principal door. Opposite are several stands surmounted by a canopy, containing specimens of the graphite and nephrite raised by M. Alibert from his mines in Siberia, with applications to industrial and ornamental purposes.

Some excellent fire-clay goods are shown by MM. Joussemaue Frères, including ovens for roasting pyrites and muffles for the case-hardening of wrought-iron articles. They also show several specimens of their gas retorts, coated inside and outside with a glaze, which prevents the escape of gas, and also the adhesion of particles of graphite, which would in time reduce the capacity of the retort. This firm was the first to introduce fire-clay retorts into France, and now carry on an important manufacture at Ivry-sur-Seine. The adjoining stand of MM. Dumesnil et Cie. contains several samples of artificial stone, which has a pleasing whitish tint all through its substance, and does not break off at the edges. These two last-named exhibitors are put *hors concours* through having been called upon to serve on the geological jury. Mr. Hamblet, of West Bromwich, was awarded a gold medal for his Staffordshire blue bricks; Messrs. E. P. and W. Baldwin, of Stourport, a gold medal for their sheet-iron and tin-plates; and Messrs. Braby and Co., London, a silver medal for their galvanised iron sheets.

In the department of machinery in motion, which extends under the south gallery and saloons, MM. Louis Favre et Cie, the contractors for the St. Gothard Tunnel, show in action a complete boring plant, such as is at present used in the works. The air-compressor, on the Mékarski system, has two cylinders in line, the pistons of which are attached to the same rod. The air is compressed in the first cylinder to 80, and in the second to 40 atmospheres. It is led from the receiver of the compressor by a pipe with expansion joint to a large reservoir made of wrought-iron plates, welded up at the seams, in the form of an egg-ended boiler. It then passes, as required, into the pressure regulator, and thence by flexible hose to the cocks on the rock-drills. Six drills, on the different systems that have been used at St. Gothard, are mounted on a carriage which has actually done duty in the tunnel. There are specimens of the McKean, Ferroux, Francois et Dubois, Turretini, Seguin, and Sommerer, some of which are on stated occasions put to work on a block of hard granite from Goschenen. There are some beautifully executed models of the Favre turbine, air-compressor, drill-carriage, and rock-drills that work frequently during the day. Complete plans and sections, showing the state of the works at the end of June last, and specimens of all the rocks passed through, are also exhibited. A diploma of honour was awarded by the jury, with a gold medal, to Mr. McKean, the inventor of the rock-drill bearing his name; and another to M. Ferroux, manager of the works.

The motive power for this and other exhibits of machinery in motion, with all the shafting, is supplied by M. Rikkers, of St. Denis, near Paris. The larger of the two engines, of 40 horse-power, possesses distinctive features, which well adapt it to winding purposes. Occupying a space of only 3 by 2½ metres, it has no connecting-rod; but the piston-rods of the two cylinders, placed face to face, are united by a hollow cross-head, in which the crank-pin makes a vertical stroke for each horizontal stroke of the pistons. Each piston has two rods, the distances apart being the same as the vertical travel of the crank-pin, so that no vibration takes place. Indeed, the four piston-rods are so braced together that no slide-bars are required, and wear on cylinders and glands is equalised. Any wear in the crank-pin brasses and guides is taken up by turning a pair of nuts. The cylinders, including their ends, are jacketed with live steam from the boiler, and the governor actuates an expansion valve of peculiar and ingenious construction. Experiments with the Prony dynamometer have proved that this engine gives out an effective force of 90 per cent. of the steam admitted into the cylinders.

MM. Th. Dupuy et Fils have gained a gold medal for their machine for making briquettes, or patent fuel, from coal dust conglomerated with a maximum of 8 per cent. of gasworks pitch. It is turning out from 21 to 23 tons of briquettes a day at Sables d'Olonnes for the French State Railway. A very high degree of compression is obtained with a special cam arrangement, and favourable reports are given of economy in manufacture.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Nov. 27.—The firmness of the pig-market noted last week, and the absence of anxiety on the part of makers to do business consequent upon the orders already booked, is even more noticeable this week. Buyers who are anxious to secure supplies to complete mixtures find themselves unable to place the orders in not a few instances, even at advanced quotations. Throughout South Staffordshire extensive preparations are on foot for increasing the output. Messrs. Addenbrooke are preparing one furnace at Darlaston, the Willenhall Company two, one in December, and one in January; the Tame Iron Company another, making two at Bilston; Messrs. Turrey another, making two at Tipton; Messrs. Matthews one, at Corby's Hall; Messrs. Holcroft one, at Brierly Hill; the Willingsworth Iron Company one, at Wednesbury; Messrs. Firminstone one, at Crookhey, and another after Christmas; Messrs. Onions one, at Dudley Port. Later on Messrs. Thomas will have one going at Blomwich; Messrs. Williams another, making three, at Parkfield; and Mr. Alfred Hickman is getting out the foundation for a fourth furnace at Spring Vale; Messrs. Sparrow, of Millfields, are preparing a second furnace, that they may repair the one blown; and on the Shropshire side the Lilleshall Company are getting another furnace ready.

In Wolverhampton yesterday and in Birmingham to-day 3½ and 4½ respectively was demanded for hot and cold blast Spring Vale pigs. Barrow hematites were nominally 4½ 5s.; but agents were sparing in the acceptance of orders, so well occupied are the makers. For Tredegar pigs 4½ was the quotation—a rise on the week of 5s.

Coal is in increased sale at all the collieries, and the expectation is pretty general that on Dec. 1 the Chairman of the Coalmasters' Association will advance prices 1s. per ton, in accordance with his intimation to the colliers.

The requisite notice of the ironworkers for an advance in wages will not expire until a few days before Christmas. This comes about by reason of their having had to give a corrected notice, for the one they recently handed in has by the arbitrator of the board been ruled informal, on account of its being dated prior to the period when his recent award came into operation. It is believed that the men will await the return of Mr. Chamberlain, M.P., from the Continent, early in January, and not appoint a deputy arbitrator to decide upon their claim.

The North Staffordshire coal and iron trades are sharing in the general revival. Pig-iron is selling in heavy lots, and the finished ironworks are making full time. At a meeting of Unionist miners' delegates, held at Talke, it has been decided to give the masters fourteen days' notice for an advance in wages.

Messrs. E. P. and W. Baldwin, of Stourport, have just been awarded a gold medal for sheet-iron and tin-plates at the Exposition Internationale de 1879, Sciences appliquées à l'Industrie, Paris, the only gold medal awarded to an English house in this department.

On open Change in Birmingham at the close of business hours this afternoon, it was understood that the marked bar firms had just assembled, and had determined not to advance either prices or wages till Mr. Chamberlain, M.P., has returned from the Continent. His decision as wages arbitrator might then be retrospective. It was, nevertheless, regarded as certain that on Saturday Earl Dudley's coal will be advanced a further 1s. per ton, thick coal colliers' wages 3d. per day, and thin coal colliers' wages 1½d. per day.

Isaac Hill, owner of the Merrill's Hole Colliery, Willenhall, has been fined 5½ at Bilston Police Court for neglecting to have the machinery, headgear, &c., examined and reported on. At the same place Thomas Pool, manager of Rookery Colliery, Bilston, was fined

5½ for permitting men to enter a foul place which had not been examined. One man was killed by choke-damp, and Pool himself nearly lost his life. At Muckley Corner Petty Sessions the Pelsall Company were fined 5s. and costs, the Bench exonerating them from any intention to defraud for not changing their mode of weighing from long weight (120 lbs.) to short weight (112 lbs.) as required by the new Weights and Measures Act, which came into force at the beginning of the year.

Mr. Moses Bayliss (Bayliss, Jones, and Bayliss), of Wolverhampton, has patented an invention which relates to those uprights for fencing and hurdles which have a stronger section of metal at the lower end, that is immediately above and extending for some distance below the ground line. The stronger section is formed solid upon the upright by rolling instead of welding it thereto as in the ordinary manner. The stronger section is preferably both thicker and wider than the rest of the upright, and may be of a rectangular, channel, or other convenient section. The uprights are formed from a bar rectangular in section, but having the two upper edges chamfered off. The bar in a heated state is passed first through a pair of rolls, one of the rolls having a plain groove and the other a plain collar, except that for a part or parts of the circumference of the roll the collar is reduced in diameter. The bar is thus reduced in thickness except for the distance at regular intervals where the collar is reduced in diameter. The bar is then passed through a plain part of the rolls if a rectangular section of the enlarged part is required, and the weight of the top roll draws the thinner part of the bar through, but the thicker part is rolled as much thinner as may be desired (but preferably thicker than the main part of the bar), and at the same time spread out wider by the action of rolling. If a channel-shaped section of the strong part is required, the bar after the first rolling as before described is passed through a plain groove in the roll of the width the thickened parties are desired to be. The bar is guided through the middle of the groove and a collar narrower than the groove pressing upon the thinner parts of the bar (by reason only of the weight of the roll) draws the bar through, but rolls the thickened parts thinner, at the same time forcing the metal out to the sides of the groove, and forcing up a ledge or flange at either side of the collar. The bars are rolled in lengths with the stronger parts at intervals as required, and the lengths for the uprights are afterwards cut off.

REPORT FROM CORNWALL.

Nov. 27.—Unless an advance in the tin standard comes speedily—that is within the next week or so—it is not at all likely that we shall see any ere the New Year. Of all the months in the year the dulllest, so far as general business is concerned, is always December. It is a month in which men balance and wind-up the business they have in hand rather than enter upon new undertakings, and there is no reason why this particular December should be an exception to the rule. Nevertheless the prices of produce keep so steady, and are in all directions so well maintained, that it is very evident further advances cannot be longer delayed. It is very cheering to see the forward movement in copper. There is an enormous quantity of fair quality copper ore in the county, which could be raised if prices were anything like the mark, and it will not take much further improvement greatly to stimulate new or revived enterprise.

There has been some discussion lately of the problem whether tin mining will pay with tin at 50½ per ton. We cannot see that the question admits of any argument. It is not a matter of probability or of speculation at all, but a matter of fact. Our leading tin mines certainly are paying, and some of them handsomely, at 50½ per ton. This is what we have all along pointed out as a satisfactory result of the black days through which we have passed—the greater economy introduced into the working of our mines, nor do we believe that the limit has by any means been reached. With a fuller introduction of boring machinery—and after all that has taken place its use in the county is only in its infancy—and with the improved dressing operations for which we are waiting, we are convinced that there is at least a further economy of 5½ per ton to be made on the average cost of the production of black tin. Even at 50½ per ton then we have by no means reached the limit of profits realisable.

If by the question it is meant to be implied that all tin mining is to pay with the 50½ rate, of course the reply must be in the negative; nor do we at all mean to say that the dividends would be anything like the mark at which we would desire to see them. All that we do say is that at 50½ the bulk of our tin mines would and do pay cost and something more, while not a few of them are capable of realising respectable dividends. Given another 10½, which we are likely to see ere a couple of months have passed, and we do not think that the genuine investing adventurers in tin mining will have anything of which to complain. As to the mere speculators, they must take their chance, and we hope for a steadier market by-and-by that will suit their book. Steady investment of capital is what mining here, as elsewhere, needs, not sudden and violent fluctuations—a series of see-sawing—ups and downs.

The proposal to subdivide Botallack shares is a wise one. It is a mistake now, whatever was the case in former days when the conditions were different, for mines to be of necessity in few hands. The amount of capital required is so enormously greater, and the whole undertaking on such an enlarged scale, that even a thousand shares now inadequately in the majority of cases represents the subdivision represented a couple of generations since by the 80 shares adhered to in Wheal Owles. Of course subdivision may be carried too far, and this has been one of the blots—not the only one—in the introduction into mining of the system of limited liability. It is not a very difficult task, however, to hit upon the *juste milieu*—the "golden mean."

The annual meeting of the Royal Institute of Cornwall has been held, and the Bishop of Truro elected president in the place of Mr. W. C. Borlase, F.R.S. Nothing of interest transpired connected with mining matters.

The Explosives Committee are about to commence operations by a series of experiments at Sevecock Quarry, Chacewater, on the afternoon of Tuesday next, the special object being to test the relative economy of the different explosives as used in hard ground. The following are the arrangements for the trial:—1. A number of holes will be previously bored in different parts of the quarry, to depths varying from 20 to 40 in., but burdened equally as far as possible. These holes will be numbered.—2. The holes will be selected in rotation by the competitors; the order of selection will be determined by a preliminary ballot. If possible each will be allowed to select three holes.—3. The holes will be charged and fired, as far as possible, in the order settled by the preliminary competition, except that those to be charged with common powder will be fired first.—4. The representative of powder will be allowed to use what quantity he pleases, but the total weight used for the three holes will be registered, together with the depth of the holes; the value of the powder so used will be the standard by which the amounts allowed to the other competitors will be determined, with reference to net market prices.—5. After each set of holes has been fired the umpires shall examine and record the results of the shots.—6. The secretary of the Explosives Committee will act as umpire for the committee, and the competitors present will choose some one to act as their umpire with him. In case of a disagreement with the umpires they shall themselves choose a referee from among the gentlemen present, whose decision on the point in question shall be final.—8. The following explosives will probably be tried:—Powder, compressed powder, Espir's powder, tonite, and dynamite.—9. All explosives, if already in the market, will be provided by the committee, and will be drawn from stocks recently supplied to the mines in Cornwall.

The Mining Institute has opened its winter campaign with an excellent paper by Capt. Teague on the "Past, Present, and Future of Tin Mining." With the past we have less to do in a practical sense, though it has its lessons; but Capt. Teague's remarks on the present and future are so valuable as to demand a summary in full detail. He remarked that trade generally had an improved tone, and it would almost appear as if they were entering on a cycle of better times. Although the price of black tin was not so remunerative as they could wish, it was much better than they had received for years past, and perhaps the present price of metal would admit of a higher price being paid. Taking, for argument's sake, 1½ ton of black tin

yielding 13½ cwt. of metal. For this the miner was paid 50½ 5s., certainly a very great increase on the price from that received just 12 months since. But if they took the present quotations for metallic tin, 95½ per ton, it would show the metallic tin found in the 20 cwt. of black tin to be worth 64½ 2s. 6d., being a difference of 13½ 17s. 6d., as a margin between the buyer and the seller. Of course the expenses for extracting the metal were to come out of the 13½ 17s. 6d., but this margin, compared with former times, appeared excessive, and he would be glad if some one more conversant with the subject would explain it. With regard to the present price of tin, compared with the average price for the last 30 years, which was over 60½ per ton, and was about 10½ more than the present price, if report spoke correctly, the stocks that had accumulated during the period of depression were being considerably reduced. From these and other facts they ought reasonably expect to reach the average price referred to before being alarmed at the price going up too rapidly. The future of tin mining was wrapped in mystery, and he should confine his remarks to what he thought they ought to expect, considering that the stocks of tin were being reduced, which was a proof that they were raising no more than the trade required. Nor was there much probability of the present returns being increased. Higher prices would, of course, be the means of starting some new concerns, from which tin would be raised after a time; but some of the present mines would be reducing the output, and, but for new mines being brought into existence, their present produce of about 1200 tons a month after a while would be reduced somewhat. If the depression they had been called to pass through had been the means of teaching them a lesson, it was towards using economy in several departments; he might almost say it had taught them economy generally, and perhaps in nothing more than the supervision of their machinery. Their drawing arrangements were improved, and where the kibbles were used they had now the skip-road, by which the wire-rope was greatly protected, and more stuff could thereby be raised at a less cost than formerly, so that after a while the old kibble, which had done good service, would be a thing of the past with few exceptions. Boring machines were also being introduced, and in deep, hard ground mines would become almost generally adopted. Whether they yet had a perfect boring machine or not he could not say, but they had been very considerably improved since they were first introduced, and he had no doubt that in the end they would have a perfect machine. Capt. Teague, in conclusion, said he felt very strongly on the mode of selling their produce after everything had been done. Recent events would tend to show that an alteration was required. By some means they ought to know when any alteration in the tin standards was to take place. He thought if these suggestions were adhered to as near as might be practicable that the future of tin mining would be equally as successful as the present or past. There were several points of interest in the discussion. The Chairman, Mr. W. Husband, had heard that a company was likely to be formed to take contracts for boring work. Capt. A. James spoke of the need of improved dressing appliances. Dr. Foster pointed out that it was not economy to pay men to climb ladders. Mr. John Hocking showed that the boring machines needed to be substantial. Capt. C. Thomas was in favour of doing as much work as possible by contract. There is no mistaking the practical character of all this.

TRADE OF THE TYNE AND WEAR.

Nov. 26.—The shipment of coal at the Tyne Dock has increased during the past week, but the trade of the district is still considerably retarded owing to rough weather in the North Sea; however, ships are now coming to hand, and the shipments of gas and other coal will be large during the present week. The steam coal trade is now dull; this usually happens after the closing of the Baltic, but the steam coal collieries are in a good position compared with the state of affairs at this time last year. Some of the pits are expected to work short time until January, when it is expected that there will be a good demand for steam coal, and as all disputes about prices have been settled with the miners, and a sliding scale established, a good year's work may be looked forward to. Collieries, ironworks, and iron mines are still being reopened almost every day in the district, and, of course, a better index of the steady revival of trade could not be shown. The South Medomsby Colliery, near Dighton, which has been stopped nearly two years, has been again commenced during the present week. The Gosforth Colliery, near Newcastle, is also being reopened, having been stopped about two years ago. The Low Main seam steam coal is to be worked here. In Durham generally the gas and coking coal works are well employed, and the improved demand for manufacturing coal is also a hopeful feature. All round coals have improved in value to some extent, but second-class steam coal is still comparatively very low. Coking coal and house coal realise a little better price. The new winning at Marsden continues to progress, but some time must elapse before the coal seams can be reached. There is, however, a large bed of valuable limestone on the estate, and this is now worked and sold in considerable quantities. At Monkwearmouth upwards of 2000 tons of coal are worked per day, and at Ryhope about 3000 tons per day. At Silksworth another large winding-engine has been completed, and when this has been got to work the quantity of coal raised will be rapidly increased. The feeder of water met with in the deep workings at Castle Eden Colliery has proved to be a very serious annoyance. It has filled the workings up very rapidly, but great exertions have been made to get pumping-engines in to lift the water, and those engines are expected to be got to work very shortly, but some time will be required to get the mine drained and at full work again.

In the important district of the Aucklands the revival of trade is a tangible fact, and as far as present prospects can be interpreted there is every reason to believe that it will prove of a permanent as well as of a substantial kind. The Bishop Auckland Ironworks, at which between 400 and 500 men were employed, were closed nearly three years ago, owing to the depression in the iron trade. The machinery was removed, and but little hope was then entertained of the works being reopened at any future time. It is now, however, officially stated that the works will be reopened without delay for the manufacture of plates and of prepared iron. The works are being put in a thorough state of repair, and the necessary machinery put in, and it is anticipated that in the course of a few weeks the works will be in good order. The firm who have taken the works are composed of Manchester gentlemen.

There was a good attendance on Change at Middlesborough on Tuesday, and although the amount of business actually transacted was not extensive the tone of the market was again more cheerful. Prices were rather firmer. Pig-iron makers adhered to their nominal quotations, based on No. 3 selling at 45s. per ton. Buyers of that quality freely offered merchants 42s. per ton, but the latter held out for 6d. more, and obtained it. The shipments of pig-iron have during the last week been very large, but it is feared that the bad weather may prevent the total shipments this month equalling those of last month, and possibly there may be an increase in the stocks of the Cleveland ironmasters. But, notwithstanding this contingency there is a prevailing belief that trade generally has so much improved that buyers must not hesitate, or they will have to pay much higher prices next year. Nothing further has transpired about the idle and damaging rumour that the North-Eastern Railway Company had given notice to discontinue the rebate on mineral traffic which they wisely and considerably made some time ago, and it has been explained that it was untrue and mischievous. The finished iron trade continues to improve, and prices are advancing. Ship-plates are quoted as high as 7½ 15s. per ton, and bars and angles have advanced in proportion. It is cheering to know that Messrs. Fox, Head, and Co.'s workmen, Middlesborough, are so well satisfied with the way in which the Board of Arbitration arrange the wages questions that they desire to join that body. Arbitration is undoubtedly the best means which has yet been devised for arranging trade disputes, and it is hoped that this system will very largely extend. Engineering and ship-building are growing better, and founders are busier.

It is expected that the Liverton Iron Mines, near Loftus, in Cleveland, will be started again shortly. A new company has taken these mines, called the Liverton Company (Limited).

The enginemakers, mechanics, and labourers employed in and about the Cleveland Ironstone mines are still agitating for an advance in

wages. The secretary of their association has waited upon Mr. John Dennington, secretary to the Cleveland Mineowners' Association, to ascertain what course they would take respecting their claims. Mr. Dennington's reply was that the mineowners would deal fairly with them; but up to the present nothing certain has been done.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Nov. 27.—Business generally continues to improve in the mining districts of Derbyshire, although in some of them the process is slow as compared with others. At the lead mines there does not appear to be the same improvement as there has been at those where coal is raised, but they are certainly better than they were. The advance in the price of lead has been such that should lead to an increase in the production, for profits should now be made. But, as has been frequently pointed out, capitalists do not appear to take so well to Derbyshire as they do to North Wales as far as regards lead mining, but it is just probable that the same inducements on paper are not held out to them, whilst there is not the same buying, and then selling to limited companies. Those few that have good mines are content to keep them to themselves, and take no credit for being philanthropists to the extent of giving a man 5l. for a sovereign, as we find so frequently promised by parties. As far as regards really good things, the fewer to partake of them the better one would think. However, so far as regards Derbyshire, the best paying mines are in the hands of a few private individuals who intend keeping them. In the coal districts business has been good, so that the colliers have been working well, in most instances being able to place to their credit six days a week, so that they are much better off than they were during the summer. Many of them have painful recollections of strikes and their consequences during the present year, and the result is that they are now contented with their position, as a rule, and are not to be allured to attempt making demonstrations for an increase of wages, or to pay attention to the policy of restriction which has been put forward by some of the leaders. To London a large tonnage of house coal has been taken by the Midland Railway from Clay Cross and other places. But so plentiful are the supplies from different districts that prices cannot be advanced, so that the best qualities are delivered to the metropolitan consumers at 25s., and Silstones as low as 22s. per ton. This is only about 1s. per ton higher than in July and August last, whilst water prices are usually from 2s. to 4s. per ton more in winter. Steam coal does not go off at all well, although particularly low in price—and, in fact, has been dull during nearly the whole of the year. In other descriptions of coal there has not been any change for the better. Of late there has been a good enquiry for pig, and late quotations for Staffordshire and the West Riding have been fully maintained. Some heavy stocks held before the rise began have been cleared off, so that the makers have done well by holding back, instead of selling when prices were so exceptionally low, and with but a sorry prospect of their improving; good profits, however, have been made in consequence, and that is everything. At the steel rail works at Driffield business has been brisk, and no doubt will continue to be so, for orders appear to be constantly received for them.

In Sheffield trade goes on improving, and more hands are being employed and fresh furnaces put in blast. This is a striking contrast to the corresponding period of last year, when the distress was so great that a committee was formed for obtaining subscriptions for the relief, or rather support, of the workmen and their families. Now the men, as a rule, are working well, and where many of them a week or two since were only working three or four days a week they are now in the enjoyment of full time. The steel departments appear to have become more active, not only in rails, but in plates, as well. The armour-plate mills have been running well, and those also which have been engaged in the manufacture of ordinary plates, so that more puddling furnaces are in operation. The steel-faced armour-plates have made some impression abroad, so that some fair orders for them have already been booked. Some of the cutlery houses are doing more business, and America just now is a good customer for different descriptions, as well as for plain steel, for after all it appears that there is a peculiarity about Sheffield made steel which transatlantic makers are unable to master. Orders from our colonies for hardware, sheep shears, and other materials have come rather freely to hand of late, whilst in the home markets there is a much healthier tone.

In the South Yorkshire mining district the business done in house coal has been good, but colliery owners still complain of the low and unremunerative prices at which they are obliged to sell. One of the disadvantages their labour under is that the rate charged by the Great Northern to London for coal is much higher than by the Midland from Derbyshire, so that from the latter, although less in area, and with coal more inferior than otherwise, four times as much is sent.

On Tuesday the Duke of Devonshire, accompanied by Lord F. Cavendish, his son, and Sir J. Ramsden, of Barrow, visited the Barrow Hematite Colliery, situated about two miles from Barnsley. The colliery is one of the deepest in South Yorkshire, or probably in the West Riding, and belongs to the Barrow Steel and Iron Company, of which His Grace is the chairman.

The proposal to restrict the production of coal in the South Yorkshire district has been withdrawn, and Mr. Chappell, one of the secretaries of the Miners' Association, whose discharge from that office was voted by the delegates in consequence of his opposition to the proposal, has been reinstated, for at several meetings votes of confidence in him were passed, and he was also congratulated upon the stand he had made against so wild and impracticable a scheme.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Nov. 24.—It is not for me to enter into a discussion on the merits of these reports, but it is due to myself to say that the accusation of "Enquirer," last week, that I am "almost week by week taken to task by able correspondents for misstatements, wrong suggestions, or improper conclusions," is simply untrue, and is quite unworthy of a man who boasts of his calling a spade a spade, and of hitting right from the shoulder. That my reports are criticised is quite true, and I court fair criticism, but without claiming infallibility I think I may appeal to the readers of these reports whether I have not, with very few exceptions indeed, made good all I have said. It is always a pleasure to a mining man to hear of mining success, and "Enquirer" is to be congratulated on the profit he has made in the Llanarmon district. He likes "definiteness," so do most of us, and it would be very interesting if he would favour us with a balance-sheet, showing on the one side his outlay, and on the other his receipts from the sales of ore made at the different mines with which he is connected in that region. With the buying and selling of shares we have nothing to do—that is not mining, but financing. The owners of the North Hendre Mine are to be congratulated on the successful work of the past year. They have gone on with their work in a quiet, persistent, miner-like way, and they deserve their reward. There is still very much to be done in the limestone belt between this mine and Minera, including the Llanarmon district, and from my heart I wish every mining enterprise therein success.

With regard to copper mining in the country east and north-east of the Van I hold to my first statement, that I do not think the stratigraphical conditions and horizon are favourable for its successful prosecution. Copper has been obtained from various mines west and south of the Van, but not in paying quantities as for copper mining alone. "H. S." is quite right in saying that the arenaceous or sandy strata of the district are more favourable for copper than the argillaceous or clayey, and this is true I think universally. The Parys Mountain Mine forms a pithy illustration. Then, it must be remembered that whatever hope may be entertained of the Cambrian Mines succeeding permanently as copper mines is largely based upon the fact that they are worked in the lower, and not in the upper, portion of the lower silurian group of strata. I would venture a further statement, which is that in the country to the east of the Van lode ore will not be found in paying quantities in the strata overlying those of the Van neighbourhood. For, as a matter of fact and observation, lead lodes cease to be profitably productive when they pass up into these overlying beds. In the work of Mr. D. C. Davies, to which "H. S." refers, I find these zones defined on pages 288-91.

There is also special reference to the mineral belts of country geographically of Cardigan and Montgomery on pages 206-9.

Stepping from Cardigan into Pembroke the results of the recent successful working of Llanfyrnach Lead Mine are seen in new dressing sheds, and a brighter and more modern look about the mine works altogether. This mine affords an illustration of the foregoing remarks. It is surrounded on three sides (west, north, and east) with strata of the Bala group, in which the slate quarries of the district are worked. As the lodes pass upwards into these beds they lose their lead ores. The mine itself is worked at the north-east end of an anticlinal ridge of Llandeilo strata, with intercolated greenstones, and porphyries that runs and widens from this point south-westward to St. Bride's Bay, south of St. David's.

Several important works in connection with the mining and quarrying enterprises of North Wales appear in the parliamentary notices published in the newspapers. Chief among these is the project for the construction of a conduit and tramway from the sea to the slate quarries of the Nantlle Valley, Carnarvonshire. The special characteristic of the Nantlle quarries is that they are sunk very deep below the surface of the ground. They have, therefore, to be drained by pumping, and the water pumped from one quarry often finds its way into another. The conduit, which will be conducted partly through a tunnel, will drain the quarries. Then the space at the disposal of the quarries is very limited, and it is difficult to avoid tipping the rubbish upon good slate rock. The tramway is designed for the conveyance of the rubbish from all the quarries to the sea shore, where there is ample space for its disposal. The scheme has often been mooted before. The present engineers are Messrs. Le Fevre and Henderson; the latter gentleman is the engineer of the South Dorothea Slate Quarry, and he has for some years been more or less connected with mining enterprise in North Wales and on the borders. I must reserve my notice of the other works until next week, and also postpone the continuation of our mining journey along the Cambrian Railway.

REPORT FROM LINCOLNSHIRE.

Nov. 27.—The improvement which has taken place in the Iron Trade has been felt in the somewhat remote district of North Lincolnshire, more particularly at Frodingham, from which, in addition to the stone used in blast furnaces, the Manchester, Sheffield, and Lincolnshire Railway takes about 4000 tons a week into other districts. The putting in blast of some more furnaces by the Parkgate Company has led to an increase in the quantity sent to those works. The company have a lease of a considerable area of ground, and will require more than 2000 tons a week. A good deal of stone is now being sent into the West Riding, and early in the new year it is expected that there will be a considerable increase in the consumption. A considerable tonnage is also likely to continue to go to the works at Milton and Elsecar, of which Mr. G. Dawes has just received a new lease from the Earl Fitzwilliam. Mr. Dawes it may be said, was the founder of the Trent works, where there are seven blast furnaces, and carried them on along with his brother; but on a dissolution of partnership they reverted to the latter, who, died about eighteen months ago. To Stavely also a good deal of stone has been sent, as well as to the Tinsly works near Sheffield. From the mine near Lincoln belonging to the Mid-Lincolnshire Iron Company, of which Mr. W. J. Roseby is the managing director, a large tonnage of the ore peculiar to that part of the ironstone fields has been forwarded to some of the other works, as well as to more distant districts. Not containing a superabundance of lime, as is the case with that worked at Frodingham, it is found to act as a corrective, so that a mixture of the two is found to produce a good quality of pig, or otherwise there would be too much lime for fluxing if the former was smelted by itself. Stone is also raised near to Market Rasen for the furnaces of the Ardley Company near Leeds, and, unlike the Frodingham, did not contain an excess of lime. At the Trent works three of the furnaces have been in blast, whilst four have been out, for the works of Mr. Dawes are the largest in the county. The Frodingham Company have also been turning out a steady quantity of pig, and the output for the present year may be put down as about the same quantity as last year, which was 125,000 tons. But the productive power of North Lincolnshire is equal to about twice that quantity, for only 11 out of the 21 furnaces have been in blast. Preparations, however, have been made for blowing in some more, and the probability is that early in next year there will be a marked increase in the production. A good deal of loss has been sustained by some of the companies, but with the present price of pig, which is not likely to come down much, the time appears opportune for an effort being made not only to recover past losses but to ensure handsome profits as well. The stone on the estate of Mr. Winn, M.P., is either let at a moderate royalty or sold at a comparatively low price, and as the freight of fuel from the South Yorkshire coal field is moderate, there is no reason whatever why iron should not be produced at the ironworks in North Lincolnshire as cheap as in almost any other district in the kingdom.

SOUTH WHEEL CREBOR—INAUGURAL MEETING.

The important discoveries in and generally improving prospects of Wheel Crebor has naturally caused renewed attention to be directed to the entire district, and every confidence is felt that capitalists will be well repaid for judicious outlay of money in developing the Tavistock mines generally. On Nov. 20 the engine at South Wheel Crebor was successfully started amidst much rejoicing on the part of the working miners, and to the evident satisfaction of the shareholders present. As a number of the gentlemen had not previously visited Tavistock they were glad to see the neighbourhood, and walked to Crebor in the morning. They were shown over the surface workings by Captain Andrews, who courteously invited them to partake of refreshment. It was a happy augury of success to see Crebor, which is divided from South only by a hedge, so prosperous, and to hear from Captain Andrews that he expected to sample at least 450 tons of ore in the course of the coming week, the lodes having exceeded his anticipations of their value.

South Wheel Crebor is a grant of land recently acquired by the Duke of Bedford from the Earl of Devon. At present it is held for a small portion of an original term of 21 years, under a lease granted by the Earl of Devon; but on the expiration of this period a new lease has been promised by the Duke of Bedford, and as the traditional liberality of the Russell family towards all legitimate mining enterprise is fully represented by the present head of the family, the shareholders of South Crebor will have no cause to regret the change of landlords, particularly when it is remembered that the water-power of the River Lumburn, which the mine belonged to one proprietor and the River Lumburn to another, the water-power was unprocurable. A shaft has been sunk about 25 fms., and Messrs. Prout and Goldworthy have sold about 1000l. of copper ore during the short time they have worked the mine. The lodes are parallel with those of Wheel Crebor. The present company has been started under limited liability, with a capital of 40,000l. The ceremony of christening having been performed, three cheers were called for the new venture, which was heartily responded to. In the evening a number of gentlemen partook of an excellent dinner provided at the Queen's Head Hotel, Tavistock.

Mr. J. KNIGHT (nephew of Mr. T. Knight, of Gunnislake), one of the directors, presided. Mr. J. W. BANTOCK, F.C.S., occupied the vice-chair. The following, among whom were several gentlemen from London, were present:—Messrs. T. Knight, J. Smith, J. Pearce, E. W. Beckingsall, H. Pearce, F. Tamblin, J. Neil, H. Patten, W. Matthews, J. Matthews, Straker, R. Walters, G. Beckingsall, Hollow, Davey, C. S. Dale, G. Prout, Rosewarne, Edean, Coates, Howard, H. Sims, Andrews, jun., &c., and Capt. Anthony, of Lelant; Andrews, of Wheel Crebor; G. Rowe, of Gawton; Rowe, jun.; Goldworthy, of South Crebor; Pryor, of Redruth, &c.

In proposing "Success to the Mining Industries in Cornwall and Devon," Mr. BANTOCK observed that had not Wheel Crebor Mine existed many others might never have been started, including the South Wheel Crebor Mine. He eulogised the management of Wheel Crebor, occupying the name of Capt. Andrews with those of the other captains in the district in the toast which he proposed. Capt. ANDREWS (Wheel Crebor) said he was hopeful that his mine was a very good one. Three-fifths of their returns he thought he might say were now profits. He was never underground at South Crebor, but he knew the district, and could only say he hoped it would be as good as Wheel Crebor. (Applause.)—Captain J. GOLDSWORTHY also acknowledged the toast. From his knowledge of South Crebor he believed it was the best mine out of Devon Great Consols up to depth—(applause)—and he had little doubt that the further they went down the better it would be.—Capt. PRYOR said he was always glad to hear of the success of mining, and with regard to their mine he knew of the success of Crebor, and he was glad to see them extending to the old boundary. There was plenty of mineral in the two counties, and all they wanted was money to open the mines. (Hear, hear.) Their mine was in good company, which was a good sign. (Applause.) He believed that East Russell would pay if forked, and they might still find in that district more Devon Great Consols. (Applause.) Dolcoath, East Pool, Carn Brea, and other mines in Cornwall had gone up in value remarkably in conse-

quence of the better price of tin, and he believed, with machinery to cheapen labour, they might in Cornwall and Devon compete with the world. (Applause.)—Capt. ANDREWS spoke as representing the Lelant district, which he thought was now looking as good as any. (Hear, hear.) He had been much pleased with what he had seen at South Crebor that day. It looked as well as could be wished. (Applause.) Capt. Rowe said if they wanted to work fast and cheap they must have plenty of machinery. If Capt. Andrews was returning 3l. out of every 5l. to his shareholders he did not see why the same thing should not be done at the other Crebors. He wished South Crebor every success, because he believed it was worth notice, and a venture upon which they should spend money, because he believed good results would be soon met with.—Capt. ROWE, in reply to a question from Mr. BANTOCK, said he believed if Crebors were ever worth 10l. before they were worth more than 10l. now.

Mr. DAVEY proposed "Success to the South Wheel Crebor Mine." He said that it was a matter of great pleasure to him once more to visit Tavistock. Many of those around him doubtless remembered his father, who had been officially connected with the mines in this district for nearly the whole of a long life; he himself was well acquainted with the mine they had just seen restarted under such auspicious circumstances, and he was convinced that in, perhaps, the richest copper district of England the present set possessed some of the richest proved lodes, he had, therefore, no hesitation in proposing "Success to South Wheel Crebor," being certain that only a little patience and judicious development were required to achieve that success, and render the mine a dividend-paying property.

The CHAIRMAN, in response, declared that he would have had nothing to do with the mine unless he had been positive that it was a perfectly legitimate concern. He felt sure that with the mine under the able supervision of Capt. Goldworthy he and his fellow-shareholders would have good reason to congratulate themselves upon the development of South Crebor.

At the conclusion of the business Mr. MATTHEWS, of Tavistock, moved a vote of thanks to the Chairman, which was seconded by Mr. J. COATES, C.E., F.G.S., of London, and carried unanimously.

GREAT SNAEFELL MINING COMPANY.

The annual general meeting of shareholders was held at Douglas on Wednesday.—Mr. H. B. NOBLE in the chair.

The usual preliminaries having been disposed of, the directors' and agents' reports were submitted, together with the accounts, which showed that the expenditure in labour during the year had been 603l. 16s. 1d., leaving a balance of assets over liabilities of 197l. 0s. 9d.

The CHAIRMAN observed that the expenditure was considerably less than in the preceding year. They had purchased turbine, compressor, and rock-drill which had been at work at a mine in Baldwin, but only for a very short time, and had now been removed and put up by their own men and the agent of the mine. He thought it was the very thing they wanted; and as soon as the men become accustomed to working it, he believed it will prove a great auxiliary in carrying out their operations. The drill is one of Ingersoll's, and their agent reports that it is as complete as it possibly can be. The ground that they are driving now in the 130, is exceedingly hard, and their agent says that when they start to drive the end of the drill will soon take the ground down. The cross-cut shows nothing of value, but still the ground in the end was of such a nature that they hope it will soon show a profitable result.

Mr. WRIGHT observed that Mr. Quine had been down the mine several times, and he says there is a good deal of lead there.—Mr. QUINE said the agent's report was a very good one, and perfectly correct. The lead that he referred to was discovered three years ago, and reported then.

The CHAIRMAN had no doubt that they had very good prospects at their mine; but to get the lead that Mr. Quine refers to out of the levels and bring it to the surface would be nothing less than giving a shilling and getting sixpence. They hope soon to have other discoveries, and be able to set the machinery to work; and then, perhaps, they would have enough lead to dress constantly. To remove the lead Mr. Quine refers to would be anything but profitable to the shareholders. They did not at all wish to depreciate Mr. Quine's knowledge of mining. He thought there was a future before the mine, and it looked as if they were soon to get a dividend; but to take that ore out now would not be wise.

Mr. LAY was appointed director in room of Mr. Adams, who had accepted a judicial office—Clerk of the Rolls; and Messrs. T. Fisher and R. Rouey were re-elected. Mr. John Goldsmith was re-elected auditor.

Mr. PARKES, in seconding the vote of thanks to the Chairman and directors, said that he was present at the mine a fortnight ago, and was very much surprised at the order and regularity with which the works were being carried on. The agent confirmed Mr. Quine's opinion, but added that he did not think it was visible to take it out. The agent thought it would be waste of money. He thought the directors deserved great credit for the purchase of the rock-drill, by making the purchase when they did—they got a very good drill for a fifth of the first cost. He thought they would soon have a dividend, as the directors were conducting the mine in a manner which was soon bound to benefit the shareholders.—The proceedings then terminated.

MARKET ECHOES, AND MINING MATTERS.

The excellent price realised for the Banca tin, equal to it is said to 99l. in London, has reanimated the market for Cornish shares. Late on Thursday afternoon, when the result transpired, buying set in, and the quotations of all the leading mines immediately advanced. It is now expected that the Cornish standards will shortly be raised again, when we may expect renewed buoyancy. Owing to the supplies reported to be coming from Australia in rather unpleasantly large quantities, and the approach of the Christmas holidays, it was generally believed that for the next month or two, at any rate, there would be little animation in the home market. This feeling has been in a great measure dispelled by the favourable result of Thursday's sale, when we believe some large American buying orders were executed, and it now really looks as though we were likely to have a fair market for tin and a good business in shares all through the dull season of the year.

At the South Frances meeting, which will be held on the 2nd prox., it is expected that the profit shown will be something like 4000l. This would be nearly equal to 1l. per share dividend; but, as a good balance must be retained to meet the expenses of the new shaft, &c., it is scarcely likely that more than 12s. 6d., or perhaps 15s., per share will be divided. The credit balance is about 3000l. The new shaft is now down about 7 fms., and it is expected that it will take at least two years to complete it. At present price the mine is paying about 15 p. cent.

There has again been a stir in copper shares, owing to the marked advance in copper. Devon Consols and Wheal Crebor have been in strong demand at advances, in the latter case the rise being fully 2l. per share. We hear the Crebor sales of ore now leave large profits, and of course the better price paid for the metal is all in the mine's favour. Parys Corporation have been slightly firmer, at 16s. 6d. to 17s. 6d., but there does not appear to be any change in the mine. Its offshoot, Morfa Du, appears now to be quite neglected by the market. Perhaps some day the turn of these shares may come.

Lead is again firmer, and all good lead shares keep in excellent request. A large business has been done in South Darren shares, and the price closes at 3l. to 3½. The mine is now making good profits, and it is said that a dividend will be paid in January next. The produce is silver-lead, which, of course, demands a good price. For some unexplained reason—for the fact of the committee offering the forfeited shares at a minimum of 4l. 15s. cannot be called one—West Oliverton became suddenly very depressed, and the quotations fell quickly to 2½, 2¾; very few shares, however, changed hands at this panic price, and the quotation has quickly remounted to 3½, 3¾, at which it stands, without sellers being plentiful.

In foreign mines a large business has been done in Panuclillo, Rio Tinto, Richmond, Flagstaff, Nouvelle Montre, Pestarena, Javali, York Peninsula Preference, and some others—in fact, foreign mine shares are decidedly "looking up."

JAMES H. CROFTS.

P.S.—FRIDAY.—The Cornish smelters have soon advanced to the Banca sale of yesterday, and the tin standards have been advanced 4l. Parys have risen to 20l., buyers—a rise of fully 3l. per share. Parys Corporation, owing to the statement that the cross-cut end "never looked more favourable," have advanced to 18s., 20s., and are in demand. Lead shares firmer. J. H. C.

INQUESTS AFTER COLLIERY ACCIDENTS.—The Home Secretary on Monday received a deputation from the Lancashire and Cheshire Miners' Association, which presented a memorial requesting his intervention in the matter of the present mode of conducting inquests on deaths arising out of colliery accidents. Mr. Pickard read the memorial, and explained that in consequence of the county magistrates cutting down expenses the coroner for South-West Lancashire now only took one death as representative of a given number of deaths arising out of the same accident; and this had a tendency to close up inquiry too soon. Mr. Cross read over to the deputation a draft of a reply which he had prepared, to the effect that it was a matter over which he had not entire control, and that with the coroner's proceedings he would not attempt to interfere, but he would give instructions to the inspectors to make a thorough investigation of these matters, notwithstanding the line adopted by the coroner.

AMERICAN AND ORIENTAL LITERARY RECORD.—As the scientific man can scarcely hope to maintain his position in the society in which he moves without keeping himself well posted as to the new literature connected with the subject to which he devotes himself, such periodicals as Trübner's Record must prove of considerable value to a large number of readers, since it supplies from month to month an indication of all the more important works published in North and South America, India, China, and the British colonies, with occasional notes on various European continental literature. The current number contains, in addition to the usual numerous though concise literary notices, interesting obituaries of Octave Delepiere, Sir Rowland Hill, Thomas Longman, A. K. Johnston, Sir Mutu Coomaraswamy, Henry Charles Carey, Prof. Bernhard von Cotta, Victor Masson, and the Rev. Dr. Joseph P. Thompson. The Record contains an abundance of information, and, properly used, will save readers a vast amount of time in seeking for the works which interest them.

CRANSTONHILL ENGINE WORKS, GLASGOW

ALEX. CHAPLIN AND CO.

THIS BUSINESS having been ACQUIRED by the SUBSCRIBER (practical partner of the late firm for the past ten years), will henceforth be CARRIED ON BY HIMSELF as SOLE PARTNER, under the same firm of ALEX. CHAPLIN AND CO.

Having arranged to retain the services of those who have managed the details of the business for a number of years, he hopes, from their and his practical experience and personal attention, to merit a continuance of the patronage so long accorded to the firm.

Mr. JOHN CLUGSTON, of 63, Queen Victoria-street, London, E.C., will act as agent for the firm there.

HENRY WILLIAM BALL,
Glasgow, 11th November, 1879.

PRINCE OF WALES MINE.

ALL PERSONS having ANY CLAIM on the Shareholders in this MINE are requested to SEND PARTICULARS of the same on or before the 6th December next, to
C. B. PARRY, Gracechurch Buildings, Gracechurch-street, London.
Dated 27th November, 1879.

THE BRYN GLAS SILVER-LEAD MINING COMPANY (LIMITED).

NOTICE IS HEREBY GIVEN, that APPLICATIONS for the REMAINDER of the SHARES will be RECEIVED up to and including WEDNESDAY next, the 3rd of December, for London, and THURSDAY, the 4th of December, for Country Applications.
Prospectuses and Forms of Application for Shares may be obtained of the National Provincial Bank of England, 112, Bishopsgate-street Within, London, and its Branches; and of the Secretary.

OFFICES: 14, GREAT WINCHESTER STREET, LONDON.

TO THE SHAREHOLDERS OF THE

UNITED VAN CONSOLS AND GLYN LEAD AND BARYTES MINING COMPANY (LIMITED).

THE DIRECTORS HEREBY GIVE NOTICE that, in consequence of the Progress of the Mining Operations being in every way satisfactory, and the Number of Applications for Preference Shares so large, they cannot RECEIVE APPLICATIONS for such shares at par after 31st December next.
JAMES COOPER, Secretary.
No. 3, Coleman-street Buildings, 25th November, 1879.

FOR BORING, SURVEYING, AND REPORTING,

E. J. BEOR, "CERTIFICATED MINER,"
NETHERPOF, NEAR CHEPSTOW.

TO CAPITALISTS, PROMOTERS, INVESTORS, &c.

A MINING ENGINEER of large experience in the WEST OF ENGLAND is in a position to obtain VALUABLE MINERAL GRANTS for clients on easy terms, and to INTRODUCE PROGRESSIVE PROPERTIES requiring very little additional expenditure to enable considerable returns to be made. With improved trade large profits are certain.
Address, "C.E., F.G.S.," MINING JOURNAL OFFICE, 26, Fleet-street, London.

TO PARENTS AND GUARDIANS.

AN ELIGIBLE OPPORTUNITY is now offered for the SETTLEMENT of an ACTIVE YOUNG GENTLEMAN IN CANADA. He will be enabled to obtain his profession as a Solicitor in five, or if he be a Graduate in three years. Cost of living about £150. In the meantime he will have active work, and obtain a knowledge of the Dominion, which is destined to become one of the most prosperous of the Colonies. Premium, £100 sterling.
HERBERT C. JONES,
32, Wellington-street, Toronto. Canada Land and Loan Agency.

WEST POLGOOTH TIN MINING COMPANY,

STICKER, NEAR ST. AUSTELL, CORNWALL.

On land belonging to C. H. T. HAWKEN, Esq., Trewithan, Cornwall.
To be divided into 6000 Parts or Shares of £1 each.

5s. on application, 5s. on allotment, subsequent calls as may be required at intervals of three months.
Cost Book System, with monthly audit by a public accountant.

PURSER—Mr. F. E. YOUNG, 13, Queen-street, Exeter.

Capt. THOMAS WASLEY, late Manager of West Polgooth and other Mines.

AUDITOR—Mr. R. SOUTHOTT, Post Office-street, Exeter, Public Accountant.

BANKERS—To be appointed.

PROSPECTUS.

This company is formed to work a piece of almost virgin ground (lying exactly to the south of and adjoining the Old Polgooth Mines), through the entire length of which run the main trunk lodes of the district known as the Great Polgooth and Hewas.

It is intended to erect a small rotary engine and other suitable machinery for pumping, stamping, &c.
It is intended, however, in the first instance, to confine attention to those lodes which have paid such enormous profits, both shallow and in depth, in Hewas and Old Polgooth.

It is believed there is no such piece of comparatively unwrought ground to be had in Cornwall.
The Old Polgooth raised over £3,000,000 worth of tin, and paid £1,000,000 in dividends, while the Hewas raised an enormous quantity of tin and nickel, and paid some hundreds of thousands of pounds profit to the adventurers.

The geological conditions are all that could possibly be desired. The hills through which the lodes pass is of the same congenial character that proved so productive in the parallel lodes adjoining. A large helvan course passes to the south, through the whole length of the sett, and intersected by three counter lodes of great promise.

All the machinery required is a small engine for pumping, stamping, and dressing appliances, when good returns of tin ores can be sent to the market in about three months after the commencement of the works, and from the present low price of machinery and materials, this is an exceptionally favourable time for starting such an undertaking. There is a certain prospect of a good rise in value of tin.

The proceeds of the first call will erect all the necessary machinery, and carry on the mine for 12 months, after which it is confidently believed the amount, to be raised by calls not exceeding 2s. 6d. per share, at intervals of not less than three months, will open a lasting and profitable mine.

There will be no other call than the first required until the machinery is erected. There is very little doubt that before this time the mine will pay cost, and the shares will command a very substantial premium.

This company is started for the purpose of legitimate mining. A stipulated sum is to be paid to the vendors for the grants and previous disbursements. The vendors of the property having agreed to take in payment the sum of 10000 in cash, payable in two equal instalments, and 1500 fully paid shares.

Special attention is called to the feature in the financial management which provides for a monthly audit by a public accountant, to whom the books of the mine will be at all times open.

This extensive sett is held under lease from C. H. T. Hawken, Esq., for a term of 21 years at a rent of £20 per annum, merging into dues of 1-15th.

A considerable number of shares have been allotted privately. Early application is requested, which should be addressed to:—

The Purser—Mr. F. E. YOUNG, 13, Queen Street, Exeter.

Capt. THOMAS WASLEY, Chacewater, Cornwall.

Mr. WILLIAM BRAY, Chacewater, Cornwall.

Mr. HURFORD, Taff Vale Railway, Cowbridge, South Wales.

All cheques should be made payable to "The Purser of Polgooth Mine," and crossed "National Provincial Bank of England," Exeter.

Copies of reports from THOMAS J. BEWICK, Esq., M.E., 4, Broad Sanctuary, London, S.W.; Capt. FRANCIS THOMAS, Par, Cornwall; Capt. JAMES TREDINICK, St. Agnes, Cornwall; Capt. JOHN EDWARDS, late Manager of "The St. Stephens Tin Mines," St. Stephens, Cornwall; Capt. M. WASLEY, St. Agnes, Cornwall, can be had on application.

It is proposed to CLOSE THE LIST on DECEMBER 31st, immediately after which date the First General Meeting of Shareholders will be held, and a committee of management appointed, of which due notice will be given.

PATENT

STEEL TRAMS AND TIPPING TRUCKS.

STEEL (OR IRON) TRAMS AND TIPPING TRUCKS.
Patented in Europe, America, and British South Africa.
Lightest and strongest made.

R. HUDSON,

GILDERSON FOUNDRY, NEAR LEEDS.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the CARGOILL MINING COMPANY.—By the direction of His Honor, the Vice-Warden, notice is hereby given, that on Wednesday, the 10th day of December next, at Eleven o'clock in the forenoon, at the Registrar's Office, at Truro, in the county of Cornwall, this Court will PROCEED to MAKE a CALL of FOUR SHILLINGS AND NINEPENCE PER SHARE, on all the Contributors of the said company settled on the List of Contributors thereof as present members. All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.

JOHN HENRY HAMLEY, Official Liquidator.
Dated Stannaries Court Office, Truro, the 25th day of November, 1879.

NANT-Y-GLO, MONMOUTHSHIRE.

TO BE LET, ON LEASE, the NANT-Y-GLO IRONWORKS,

known as—
1.—THE LION MILL.
With a BEAM CONDENSING ENGINE, 48 in. cylinder, 8½ ft. stroke (incomplete), with machinery for driving three rail and two blooming mills, with standard, rolls, and connections, and cast-iron flooring plates, covered by a main roof in two spans, 224½ ft. by 87 ft., recently related, and two other roofs, 68½ ft. by 35 ft., and 61 ft. by 31 ft., with bulling or heating furnaces, and four steam boilers. Fitting shop, adjoining, 61 ft. by 30½ ft., with two floors, smiths' shop, 61 ft. by 30½ ft., with eight smiths' hearths.

2.—UPPER MILL AND PUDDLING.
ONE BEAM CONDENSING ENGINE (incomplete), 46 in. cylinder, 8½ ft. stroke, wheel gearing, bed plates for roll standards, squeezers, &c., one egg-end boiler, three tubular ditto (one incomplete), main building, 240 ft. by 51 ft., adjoining buildings, 112 ft. by 28½ ft., and 61 ft. by 28½ ft., with iron roofs, principally unslated, one bulling and fourteen puddling furnaces. Roll turner's shop, adjoining.

3.—MIDDLE FORGE.
ONE BEAM CONDENSING ENGINE, 42 in. cylinder, 8 ft. stroke (incomplete), with machinery for driving two trains of puddling rolls, main building, 226 ft. by 45 ft., adjoining ditto, 104 ft. by 25½ ft., 93 ft. by 19 ft., and 33 ft. by 24 ft., thirty puddling furnaces.

4.—PUDDLING AND PLATE MILL.
ONE BEAM CONDENSING ENGINE, 46 in. cylinder, 8 ft. 4 in. stroke (incomplete), with machinery, &c., four steam-boilers, puddling and bulling furnaces (some in an unfinished state), main building, 278 ft. by 53½ ft., adjoining ditto, 97½ ft. by 32½ ft., 100 ft. by 32½ ft., a considerable portion unslated.
The above are suitable sites for the manufacture of Tin-Plate, Merchant Bars, Wireworks, Rail, Plate Mills, and also Wagonworks.

All are on and have communication with the London and North-Western Railway, and are well supplied with water.
A Colliery adjoining can be taken in addition with either of the above if desired, from which a supply of Fire-Clay for Brickmaking and other purposes can be obtained.

For further particulars, apply to WILLIAM ADAMS, Esq., C.E., Cardiff; or Messrs. COLBORNE and WARD, Solicitors, Newport (Mon.).

TO CAPITALISTS.

TO BE SOLD, BY PRIVATE TREATY, a LEAD MINE in the HALKYN MOUNTAIN. The mine is free from water, is in good working order, has a good amount of lead in sight, and can be worked with small outlay.

For further particulars, apply to Mr. J. SMALL, Queen's Park, Chester.

VALUABLE COPPER MINE,

SITUATED IN THE ENGLISH LAKE DISTRICT.

TO BE SOLD, in consequence of the Death of the Principal, the above VALUABLE MINE, with WATER-WHEELS, PLANT, and TACKLE, complete. Upshot price, £2000.

Further particulars may be obtained from, and offers sent to, Mr. JAMES BOOTH, Solicitor, 2, Cooper-street, Manchester.

FOR SALE, a VERY VALUABLE LEAD AND BLENDE MINE, with PUMPING, DRAWING, and DRESSING MACHINERY, complete.

Also, an EXCELLENT 40 in. cylinder CORNISH PUMPING ENGINE, 10 ft. stroke, with TWO GOOD BOILERS; together with a quantity of other MACHINERY and PITWORK.

Apply to Mr. J. KITTO, Llanidloes, Montgomeryshire.

VALUABLE FREEHOLD COLLIERY WITH COAL AND IRONSTONE MINES.

TO BE SOLD, either the WHOLE or PART of LESSOR'S INTEREST in a LARGE FREEHOLD COLLIERY in one of the North Midland Counties, also a LARGE AREA of LEASEHOLD COAL, with power to work thereon as much as possible during eleven years, without any further payment to Lessor.

The coal is of high repute in the London and Southern Markets, and the plant is powerful and efficient, and included in the Lessor's interest, and is capable of raising a minimum of 4000 tons of coal per week. There is ample siding accommodation in connection with the Midland Railway Company's Main Line to London. The Advertiser would be prepared to CO-OPERATE with the PURCHASER in WORKING the COLLIERY, finding his proportion of Capital for such purposes. For particulars, apply to Messrs. J. and P. HIGSON, Civil and Mining Engineers, 18, Crown Buildings, Beeth Street, Manchester.

GYPSUM AND LIMESTONE.

THE OWNER of an ESTATE in SUSSEX, under which there is a considerable bed of GYPSUM and LIMESTONE, will be willing to ENTER INTO ARRANGEMENTS with PARTIES OF STANDING, who would UNDERTAKE THE WORKING THEREOF, either in shares or on a royalty. The adjoining property is now in work, and the kilns and machines in action, and a branch railway connected with the South Eastern Railway. For further particulars, apply to J. C. MAPPIN, Broadfield, Reigate.

FOR SALE, a FIRST-CLASS SECOND-HAND 80 in. CORNISH PUMPING ENGINE, with several 11 ton BOILERS.
Apply, Wm. BENNETTS, Roskear, Camborne.

FOR SALE, a NEW 70 inch cylinder CORNISH BEAM PUMPING ENGINE, 10 ft. stroke in cylinder and 9 ft. in the shaft, with steam axle, metallic piston, and wrought gudgeon. The false cover, perpendicular pipes, weigh posts, working and nozzle gear all fitted bright. A strong substantial well made engine, complete, including cast-iron casings for top and bottom nozzles with bright covers, holding down bolts and wrought-iron caps and bolts for connection to main rod.
Apply to WILLIAM'S FERRAN FOUNDRY COMPANY, Ferranwerthall, Cornwall.
Dated Jan. 29, 1879.

TO IRONSTONE COMPANIES.

FOR SALE, the ROYALTY of a VALUABLE SEAM of SEAMS of IRONSTONE (CLAY CARBONATE), NINETY-FOUR ACRES, situated at IPSTONES, near FROGHALL, STAFFORDSHIRE.
For analysis and terms apply to the Owner, Mr. H. J. HALL, Eastfield, Peterborough.

FOR SALE, at NEW PEMBROKE MINE, CORNWALL:—
An excellent 25 in. DRAWING ENGINE and TWO BOILERS.
TWO SPARE BOILERS.
THREE IRON STAMPS AXLES.
100 fathoms FLAT RODS, ¾ inch.
10 arm CAPSTAN IRON AXLE.
A QUANTITY OF ROD PLATES and OTHER MATERIALS.
Apply to Mr. JOHN POLKINGHORNE, Woodlands, Par, St. Austell.

PIT SINKING, WINDING COAL, PUMPING, &c.

PORTABLE STEAM ENGINE FOR SALE, with two 13½-inch cylinders, fitted with link-motion reversing gear, large boiler, with or without road travelling wheels, and winding and pumping gear.
Also a double 9½-in. cylinder PORTABLE ENGINE.
A 9½-in. cylinder VERTICAL ENGINE, with winding drum, complete.
An 8-in. cylinder VERTICAL HOISTING ENGINE, with winding drum complete.
To be seen at—
BARROWS AND STEWART'S WORKS, BANBURY, OXON.

J. S. MERRY,

ASSAYER AND ANALYTICAL CHEMIST,
SWANSEA.

SUPPLIES ASSAY OFFICE REQUIREMENTS AND RE-AGENTS.

MR. WILLIAM BREDEMAYER, MINING, CONSULTING and CIVIL ENGINEER, U.S. MINERAL SURVEYOR for UTAH and IDAHO. NOTARY PUBLIC.

Geological examinations; reports on mining properties; surveys mines, railroads, and canals; and superintends the workings of the same; prepares estimates and plans for opening and working mines. Expert on mining questions before the Courts.
Address, P.O. Box 1157, Salt Lake City, Utah.

MR. CHARLES BAWDEN, ST. DAY, SCORRIER, CORNWALL.

From long practical experience is enabled to ADVISE CAPITALISTS as regards the PRESENT PRODUCTIVENESS and PROSPECTIVE VALUE of the different MINES throughout CORNWALL.

NANT-Y-MOCH MINING COMPANY (LIMITED).

Capital £10,000, in 10,000 Shares of £1 each.

Prospectuses and Shares may be obtained on application to Ca A. FRANCIS, M.E., Goginan, Aberystwith; or from ERNEST W. MURRAY, Esq., 8, St. Benet-place, London, E.C.

LADY ASHBURTON SILVER MINING COMPANY (LIMITED),

Near CALLINGTON, in the County of CORNWALL,

Incorporated under the Companies Acts, 1862, 1867, and 1877.
£30,000 (30,000 £1 Shares) being the Capital of the Company.

Payment, £1 per share on application.

Should no allotment be made the application money will be returned in full.

DIRECTORS.

B. J. COWELL HELDEN, Esq., F.L. and M.A.S., 68, Pall Mall, S.W. —CHAIRMAN.

Colonel PERCIVAL, 23, Queen's-terrace, St. John's Wood, N.W.
A. STRONGE GILBERT, Esq., 13, Grafton-street, Piccadilly, W., and Richmond, Yorkshire.

Major BIRCH, Clarges-street, Mayfair, W.
P. GOIFFON, Esq., Concordia House, Lady Margaret-road, Highgate-road, N.W.

EDWIN CARTER, Esq., M.E., 85, Gracechurch-street, E.C.

W. BROWN, Esq., 16, Giesbach-road, N.

BANKERS—LONDON AND SOUTH-WESTERN BANK (Limited), Fenchurch-street, London, E.C.

SOLICITORS—Messrs. STACPOOLE AND SON, Pinner's Hall, Old Broad-street, London, E.C.

BROKER—F. K. BLANCH, Esq., Member Stock Exchange, 80, Old Broad-street, London, E.C.

AUDITOR—Mr. RICHARD MITCHELL, 7, Union-court, Old Broad-street, London, E.C.

SECRETARY—Mr. J. J. STANSFIELD.

OFFICES,—10, BUSH LANE, LONDON, E.C.

The object of the company is to purchase and fully develop the silver lodes and others laid open in a portion of the Ashburton property, in the parish of Callington, in the county of Cornwall, the grant being secured in the usual way by a lease for the customary term of 21 years, subject to the payment only of one-twentieth dues.

It commands half-a-mile on the course of the lodes from east to west, and about the same in a contrary direction, affording scope for opening out the lodes very extensively, and to a greater depth than mining explorations have ever yet reached. Moreover Calstock Quay, on the navigable River Tamar, not being more than two miles distant, if so much, ensures very inexpensive carriage of the ores thereto for shipment to market, and of materials back for working requirements; giving the mine an appreciable positional advantage.

The various trials made, besides saving the company much time and money, are very important; firstly, on account of having led to a most valuable discovery; secondly, on account of affording correct guidance in opening out the mine in the most expeditious and advantageous manner possible; thirdly, the account of showing the character, size, lineal course, and declination of the lodes; and fourthly, on account of proving that there are no less than five lodes within the limits of the grant, which is very important, as the success of the Lady Ashburton Mine is not dependent on the eventualities of one lode only, as some mines unfortunately are.

That the lodes have been under powerful mineral influence will be readily understood by the following extracts from reports, which express the opinions of mining advisers of reliable sound practical judgment. Their statements and opinions irresistibly lead to the conclusion that there is a very rich silver mine to be soon opened out in the Lady Ashburton Grant.

Judging from and relying on, the statements and opinions of the authorities referred to, which no doubt had much careful consideration before being advanced, it is to be confidently expected that the district spoken of, and more particularly the Lady Ashburton Mine, will soon be very prominently before the mining world.

Mr. GEORGE HENWOOD, unquestionably one of the most experienced, most enlightened, and reliable mining authorities of the day, says, amongst other things:—"Had these lodes been, in Mexico, California, Nevada, India, or any other of the foreign silver mining countries of the world, their richest ore formations would have been long since reached, and would now be working on a very extensive scale, and at depths of 100 and 150 fms.; producing also such considerable quantities of rich ore as to ensure the shareholders very large dividends."

"In addition to my 40 years' home mining experience I have practically acquired much varied knowledge of silver lodes in the several districts of the Great Himalayas of India, and can, therefore, now give a more decided and reliable opinion than I before could of the value of the Lady Ashburton property, in which I unhesitatingly say there are lodes that will turn out to be very rich in silver; those of the well-known Silver Valley and Wheal Langford, and more particularly the celebrated Wheal Brothers lode."

"The oftener I am reminded of what I know of the district the more I feel convinced that it will prove to be a great silver ore producing one; there being in the Lady Ashburton Grant several of its richest lodes."

"Assuming that the Lady Ashburton Mine turns out a prize, which is to be confidently relied on, seeing that one of its lodes, at a depth of a few fathoms only, already produced ore of the value of £134 per ton (justifying the opinion that it has already commenced in real earnest being rich), this district, which has suffered by its long dormant condition an undeserved fate, will be ensured a very important future. I strongly advise driving the present adit level north, which, although not deeper than 20 fms., will in my opinion open out lodes so rich in silver as to much astonish the mining world, and greatly enrich the shareholders on little deeper development. I do not know, nor have I ever heard of, any other lodes in any part of the kingdom that can be correctly termed silver lodes."

The late Mr. HOWARD WILCOCK wrote:—"I have been for many years acquainted with the district in which this mine is situated. I several times inspected the adjoining East Cornwall and Wheal Langford Mines when last worked, and have broken silver ore from the lodes in particular places, of the value of over £1000 per ton. I have seen it very rich of various kinds: Native, ruby, grey, &c. I also had reliable information touching the neighbouring Wheal Brothers Mine when last worked, (about 45 years ago) by Capt. Malachi: some of the produce of its lodes being so rich that it fetched at the rate of hundreds of pounds per ton. The lodes of this mine and of the other mines named, also of Silver Valley, are the Lady Ashburton Mine lodes."

"The Lady Ashburton lodes being in maiden ground nearly all throughout the grant, the profits will, in my opinion, be much greater than Malachi and partners realised by their mines, which had been worked at different times before they had anything to do with them."

The following lines are from the report of Mr. JAMES WILCOCKS, who superintended the exploitation of the Lady Ashburton Mine for Dr. Sargeant, of Callington, the owner. He says:—"No. 1 lode is about 3 ft. wide, and carries a leader of silver and copper already from 4 to 5 in. wide, although only yet open to the depth of 4 fms.; some of the silver ore that we broke from this part of the lode having been sold to Messrs. Sheldon, Bush, and Co., of Bristol, at £134 per ton, as per sale ticket, and some of the selected ore from this lode has produced as much as 2000 ozs. of silver per ton, as per assay note! We could not work any deeper for want of an engine and requisite pumping appliances to keep the workings drained, but for which I have not the slightest doubt we should have quickly opened out a very rich mine."

"I superintended the mine for Dr. Sargeant (its owner), and I did indeed most sincerely regret, as I still do, that he could not command a comparatively little amount only needed, say £3500 (perhaps not more than £3000), for providing the necessary machinery, and sufficiently developing the mine, to realise a great fortune."

"I am of the opinion that most of the lodes between this property and the River Tamar will sooner or later be very profitably wrought, and that a great rich silver ore district will be opened out; it being moreover satisfactory that this depends so much on the Lady Ashburton Mine, which will no doubt prove a great prize."

This unquestionably very valuable property is also spoken of by other well-known authorities of experienced and reliable judgment, who have a special knowledge of the district and its lodes. They are of the opinion that with a small expenditure of money there is to be soon opened out in the Lady Ashburton Grant a silver mine that will bear favourable comparison with some of the rich silver mines of California and other silver-producing countries, which have in a few years made many shareholders worth (individually) tens of thousands of pounds. Those who have capital awaiting profitable employment will do well to invest some of it in the Lady Ashburton Silver Mining Company, it being relied on that the No. 1 shaft is already in the upper portion of a rich course of silver, which, when opened out a little deeper, will realise for the shareholders a mine that will pay them hundreds per cent. per annum on the present issue price of the shares. The Devon Great Consols and many of the Cornish mines (although only producing tin, lead, and copper) have paid the first shareholders hundreds per cent. per annum.

It is generally believed that before the lodes of the Lady Ashburton Mine are opened out 30 fms. deeper (one having already produced ore of the value of £134 per ton, at only a few fathoms from surface, it is to be borne in mind) probably the £1 shares will go to £5, and likely enough to £10 in less than twelve months; the lodes being veritable silver lodes.

Mr. P. B. OPPENHEIM, of 85, Gresham House, Old Broad-street, London, E.C., the owner of a silver mine in California, and who has had great mining experience in that country as well as Nevada, having seen some of the ore of the Lady Ashburton lode, pronounces it to be precisely similar in constituent character and richness to the silver ore of some of the lodes of those countries. Indeed, he says, if he had not been told to the contrary, he would unhesitatingly have said it had been broken from a California or Nevada lode.

The price of the shares is to be considered very little as compared to their great prospective value, and the probabilities being greatly in favour of their soon commanding a highly remunerative premium price, promptness in securing some of them is advisable, as they will be allotted in strict accordance with priority of application.

The only contract (dated 21st November, 1879) entered into is between Robert Acton Burnell, Esq., of 9, Gracechurch-street, London, of the one part, and Mr. John James Stansfield, of 10, Bush-lane, in the City of London, on behalf of the company, of the other part, and can be seen at the office of the company, also lease of the mine, some specimens of its silver ore, and analyses in proof of the richness thereof being greater than stated.

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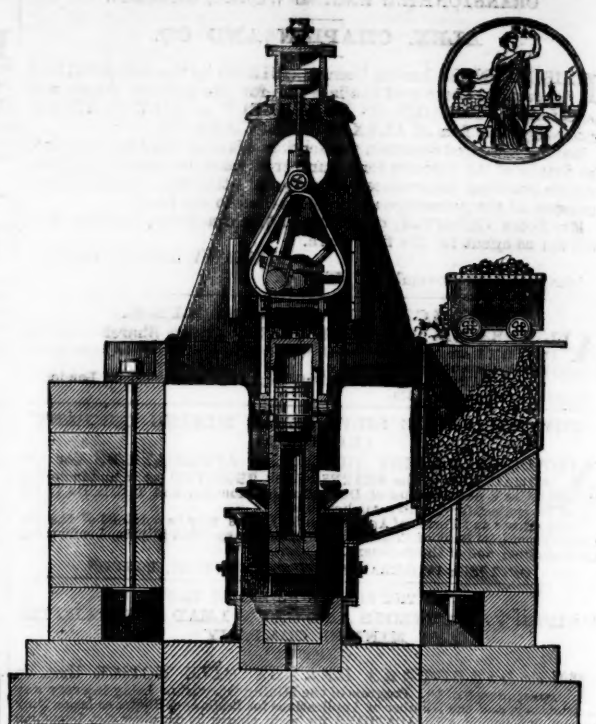
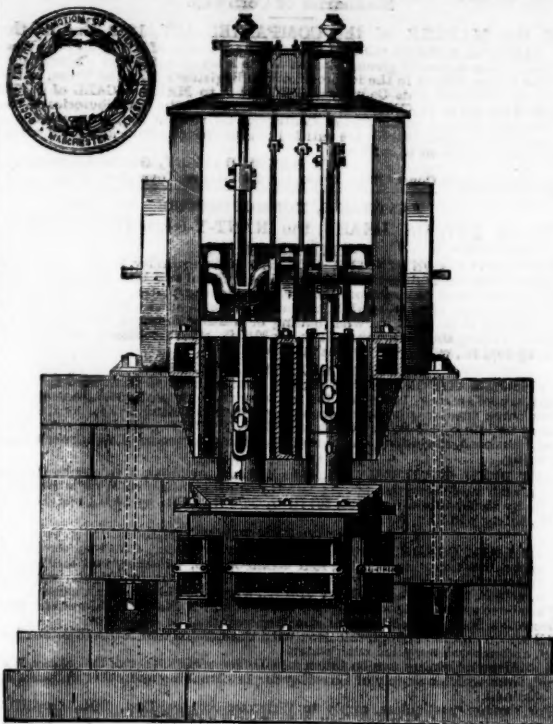
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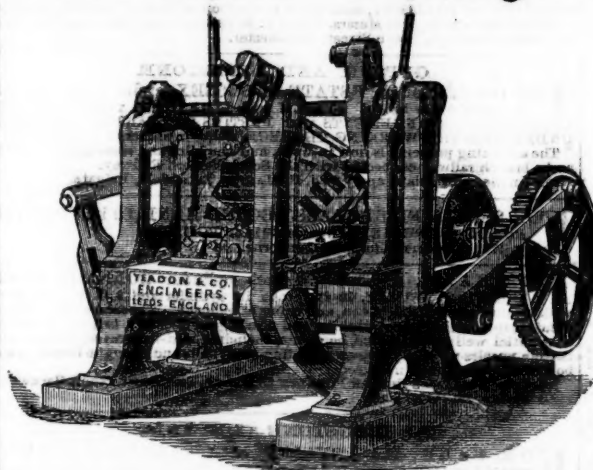
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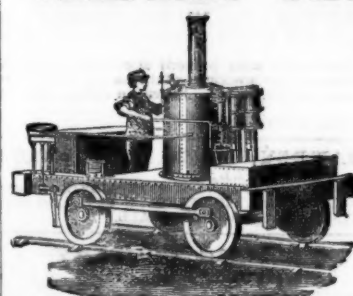
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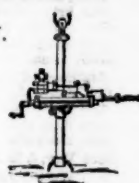
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4000	Tamar, <i>s</i> , <i>t</i> , Bearaaston*	1 0	0 0	1½ 1½ 1½
6400	Teeddale, * <i>t</i> , Cardigan (pref.)	1 0	0 0	6s. 6s.
10000	Temple, <i>t</i> , Durham*	1 0	0 0	—
5000	Trevelyn, <i>t</i> , Redruth	6 0	0 0	—
12000	Trerellawn, * <i>s</i> , <i>c</i> , Cranstock	1 0	0 0	—
640	Tryn, * <i>t</i> , Nerguis, Flintshire	10 0	0 0	—
5000	Tyn-y-Fron, * <i>t</i> , Cardigan	1 0	0 0	1½ 1 1½
5000	Diffro	0 7	6 ¾	¾ ¾ ¾
10000	Van Cons. and Glyn, * <i>t</i> , Llandloes.	2 0	0 0	¾ ¾ ¾
1000	Vaughan, * <i>t</i> , Cardiganshire	10 0	0 0	—
18000	Victor, * <i>t</i> , Flintshire (£1 share)	0 5	0 0	—
12000	West Assheton, <i>t</i> , Carnarvon	1 0	0 0	2½ 2½ 2½
6000	West Bassot, <i>c</i> , Illogan†	7 0	4 11½	11 11 12
3000	W. Craven Moor, <i>t</i> , Pateley Bridge*	10 0	0 8	7 8
12000	West Goginan, <i>c</i> , Cardiganshire	2 0	0 0	¾ ¾ ¾
1200	West Holway, <i>t</i> , Flintshire	1 0	0 0	1½ 1 1½
6000	West Kitty, <i>t</i> , St. Agnes	1 0	2 0	— 2 2½
3000	West Mary Ann, <i>t</i> , Menheniot	0 12	6 0	—
199	Westminster Bog Issa, Llanarnon.	5 0	0 0	—
20000	West Pateley Bridge, * <i>t</i> , Yorkshire.	1 0	0 0	2½ 2½ 2½
1783	West Poldice, St. Day†	11 0	0 0	—
1000	Wt. Roskear, <i>t</i> , <i>s</i> , <i>t</i> , <i>c</i> , Carnborne.	5 10	0 0	—
2048	West Wheal Frances, <i>t</i> , Illogan†	29 6	3 12	11 11 13
3000	West Wheal Fawcett, <i>t</i> , Redruth	1 5	0 5	4½ 5
1200	West Wheal Valley, <i>s</i> , Montgomery.	3 0	0 0	1½ 1½ 1
6000	Wheal Agar, <i>c</i> , Illogan†	13 0	0 0	5½ 6
6144	Wheal Bassett, <i>c</i> , Illogan†	33 2	6 3½	3 3½
6000	Wheal Coates, <i>t</i> , St. Agnes	2 0	0 0	—
2585	W. Comford, & No. Tre's, <i>c</i> , Gwennap	1 17	0 3	2½ 3
6000	Wheal Crebor, <i>c</i> , Tavistock	4 8	0 7	7½ 8
5179	Wheal Grenville, <i>c</i> , Carnborne	4 10	0 5½	5 5½
2048	Wheal Jane, <i>t</i> , Kea†	5 13	10 5½	5 5½
4200	Wheal Killy, <i>t</i> , St. Just†	5 4	6 3	3 3½
80	Wheal Owles, <i>c</i> , St. Just†	178 15	0 105	110 120
1000	Wheal Russell, <i>c</i> , Tavistock	18 10	0 0	15 15
1000	Wheal Sisters, <i>t</i> , Lelant	18 10	0 0	15 15
4096	Wheal Uny, <i>t</i> , <i>c</i> , Redruth	15 1	0 13	1¼ 1¼ 1¼
10000	Wye Valley, <i>t</i> , Montgomery*	3 0	0 0	1½ 1½ 1

bl, blende; *sl*, coal; *s*, copper; *g*, gold; *l*, lead; *s*, silver; *sl*, slate; *sl*, silver-lead; *t*, tin; *z*, zinc; *i*, iron; *a*, arsenic.
* Limited Liability Companies; † quoted on the Stock Exchange
† have paid dividends.

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‡ have paid dividends.

COMPANIES: GAS, IRON AND COAL, WAGON COMPANIES, &c.

TRAMWAYS.

<i>Issue, Shares.</i>		<i>Anglo-Argentine [L]</i>	<i>all</i>	<i>4,344,456</i>	<i>Pd. Cls. gr.</i>
40000...	5	...	all	10	10 11
10000...	10	...Barcelona [L]	all	10	10 11
7140...	10	...Belfast Street Tramways	all	8	8 9
3050...	10	...Birkenhead, Ordinary	all	8	8 9
3000...	10	...Ditto, 6 per cent. Preference	all	10	10 11
9290...	10	...Bristol [L]	7½	7½	10 10
3200...	10	...Chester [L]	all	10	10 10
24000...	10	...Dublin	all	12	12 12
14690...	10	...Edinburgh Street Tramways	all	14	15 15
35000...	10	...Glasgow Tramway & Omn. [L]	9	10	10 10
10000...	10	...Hughes Loco. and Tram. works	all	8½	9 9
7500...	10	...Hull Street Tramways	all	12	13
7500...	10	...Imperial [L]	all	9	10
34000...	10	...Liverpool Unit. Tram & Om. [L]	all	11½	11 12
25000...	10	...London [L]	all	11	12
15000...	10	...London Street Tramways	all	10½	11
60000...	10	...North Metropolitan	all	15	15 15
8000...	10	...Nottingham and District [L]	all	10	10 10
11947...	10	...Provincial [L]	all	10	10 10
6000...	10	...Sheffield	all	9	9 9
5000...	10	...Southampton	all	10	11
6000...	10	...Sunderland [L]	all	9	9 9
10000...	10	...Swansea	all	5½	6 6
12000...	10	...Tramways of France [L]	all	10	10 10
16500...	10	...Tramways of Germany [L]	all	10	10 10
20000...	5	...Tramways and Gen. Works [L]	all	7½	7½ 7½
40000...	5	...Tramways Union [L]	all	6½	7
25000...	10	...Vale of Clyde	all	4	4 5
7200...	10	...Wolverhampton [L]	all	10	10 11

ISCELLANEOUS.

MISCELLANEOUS.				
Stk.	Atlantic and Great Western			
	Leased Lines, Rental Trust	100	0 ... 71	73
25	Australian Agricultural	21	10 ... 88	90
10	Brighton Aquarium [L]	10	0 ... 7	7½
Stk.	Cent. of New Jersey Con. Mort.	100	0 ... 106	107
25	City of London Real Property	12	0 ... 2	2½ p
5	Diamond Rock Boring	4	10 ... 3½	3¾ d
16	Fore Street Warehouse [L]	14	0 ... 3	6 p
15	Foster, Porter, and Co. [L]	10	10 ... 16	17
17	Hudson's Bay Company	17	0 ... 14½	15½
Stk.	Illinois & St. Louis Brge, 1st Mt.	100	0 ... 106	108
Stk.	Ditto 2nd Mort., 7 per cent.	100	0 ... 64	68
7½	Imperial Credit [L]	7	10 ... 6½	7¾
	— Ditto, Surplus Certificate			7
Stk.	Lehigh Val. Con. Mort., A, 7p. c.	100	0 ... 107½	108½
10	Milner's Safe [L]	10	0 ... 7½	8½
25	National Discount [L]	5	0 ... 10½	10¾
Stk.	N. Cent. Rail Mort., 6 per cent.	10	0 ... 100	101
10	Pawson and Co. [L]	8	0 ... ½	dis per
50	Peninsular and Oriental Steam	50	0 ... 52	54
Stk.	Pennay. Gen. Fund, 6 p. c. 1890-100	100	0 ... 116½	117½
Stk.	Do. Con. Sink. Fund, 6 p. c. 1905-100	100	0 ... 111	112
Stk.	Scottish Australian Inv. Co.	100	0 ... 190	200
Stk.	Ditto 6 per cent. pref.	100	0 ... 128	133
Stk.	Ditto New Ordinary	100	0 ... 15	17
12	Telegraph Const. & Maint. [L]	12	0 ... 34½	35½
5	Ditto, 2nd Bonus, 3 per cent.	5	0 ... 23	3
10	Tharsis Sulphur & Copper Co.	10	0 ... 30	31
Stk.	Union Pacific Land Gt., 1st Mt.	100	0 ... 114	116
Stk.	Union Pacific Ry., 1st Mort.	100	0 ... 114½	115½

TELEGRAPH COMPANIES

TELEGRAPH COMPANIES.				
Stk.	Anglo-American	100	0 ... 55	56
10	Brazilian Submarine	10	0 ... 7 3/4	7 3/4
20	Direct United States Cable ...	20	0 ... 10 1/2	10 3/4
10	Eastern	10	0 ... 8 3/4	8 3/4
10	East. Exten. Austr. and China	10	0 ... 8 3/4	8 3/4
10	Great Northern	10	0 ... 8 3/4	8 3/4
25	Indo-European	25	0 ... 22 1/2	23 1/2
10	Mediterranean Extension	10	0 ... 23 1/2	24 1/2
8	Reuters	8	0 ... 10 1/2	10 3/4
Stk.	Submarine	100	0 ... 230	240
10	West India and Mediterranean	10	0 ... 1 3/4	1 3/4
20	Western and Brazilian	20	0 ... 4 1/2	5 1/4
\$1000	West Union Tr. & Mkt. Bonds	\$1000	120	125

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